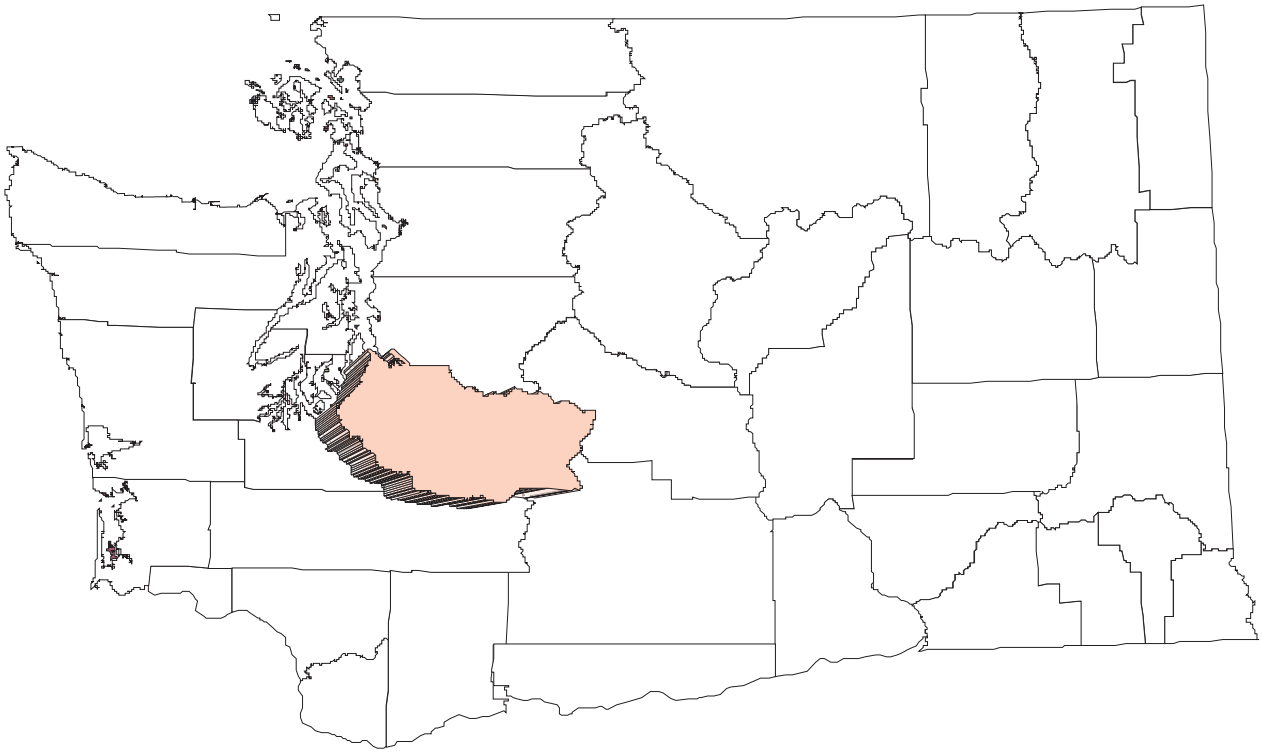
COUNTY PROFILE ON RISK AND PROTECTION

FOR SUBSTANCE ABUSE PREVENTION PLANNING

IN

PIERCE COUNTY



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Division of Alcohol and Substance Abuse

Office of Research and Data Analysis

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COUNTY PROFILE FOR SUBSTANCE ABUSE PREVENTION PLANNING

PIERCE COUNTY

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EXECUTIVE SUMMARY

This Report Provides:

- *a presentation of the risk and protective factor framework for substance abuse prevention*
- *a discussion of some newer promising approaches to substance abuse prevention,*
- *graphic and numeric display of county data on risk and protective factors for alcohol and other drug abuse*
- *county comparisons to state numbers and numbers for a group of similar counties*
- *guidelines for interpreting and using county data for prevention planning*

Context for Substance Abuse Research and the Need for Prevention Services

Substance abuse costs money, causes harm and is increasing among youth. National estimates of the direct monetary costs of alcohol and illicit drug use approach $200 billion (Rice, Kelman, and Miller, 1991; Harwood, 1985). In Washington State, results from the 1995 school-based Washington State Survey of Adolescent Behaviors show that rates of past month marijuana use doubled between 1992 and 1995. During the same period, binge drinking and the experimental use of tobacco, marijuana, and other illicit drugs also rose among Washington students. The ongoing demand for effective prevention programs that are well designed and properly targeted is clear.

More positively, other forms of substance use have declined. Washington's school survey showed that, between 1992 and 1995, greater numbers of youth are abstaining from inhalants and over-the-counter drugs. Abstention rates for alcohol have remained stable. Furthermore, levels of illicit drug use among youth are still well below levels encountered in the late 1970s and early 1980s.

"...for every dollar spent in preventing illicit drug use, there was a fifteen dollar savings in dealing with the consequences of drug use and addiction."

Such findings show that substance abuse can be impacted and suggest that prevention efforts are an important component in reducing the social and economic costs of substance abuse. Substance abuse prevention is also cost-effective. Recent research suggests that "...for every dollar spent in preventing illicit drug use, there was a fifteen dollar savings in dealing with the consequences of drug use and addiction (Kim et al., 1995)."

Defining an Approach for Substance Abuse Prevention

"Risk factors" are characteristics which are associated with increases in substance abuse.

"Protective factors" are characteristics which reduce or moderate the influence of risk factors.

DASA has adopted a risk and protective factor-based framework as the foundation of its statewide prevention planning.

Choices for prevention approaches and specific strategies are numerous and diverse. What is needed is a framework that can help prevention program planners make informed decisions concerning which strategies to implement and where prevention programs are most needed. Recent developments in prevention science have shown that there are characteristics of individuals and their familial and social environments that seem to affect the likelihood of negative outcomes such as substance abuse. Just as in research on heart attacks, stroke and cancer, these characteristics are divided into "risk" and "protective" factors.

Risk factors are characteristics of people or their family, school and community environments which are empirically associated with increases in substance abuse. Other characteristics function as **protective factors**, which serve to reduce or moderate the influence of risk factors.

In the late 1980's, Professors J. David Hawkins, Richard Catalano and their associates at the University of Washington reviewed and synthesized three decades of research on risk and protective factors for adolescent substance abuse. The application of this research-guided framework to substance abuse prevention calls for interventions which are designed to reduce levels of risk and enhance levels of protection, particularly for those exposed to multiple risks. This framework has been adopted by the Division of Alcohol and Substance Abuse (DASA) as the foundation of its statewide prevention planning approach.

Local Information Needs for Prevention Planning

Local prevention planners need local measures of risk and protective factors

In order to effectively develop and target prevention programs using the risk and protective factor approach, local prevention planners must be able to assess local levels of such factors. Of course, local assessment of risk and protection requires local measures of risk and protection.

This report provides such local measures in the form of indicators, or proxy measures. In total, 56 indicators of risk factors and 10 additional indicators of substance abuse and other problem behaviors were identified and collected from over thirty different existing data sources. For risk and protective factors where county-level indicators could not be identified, regional measures from the 1995 school survey were obtained.

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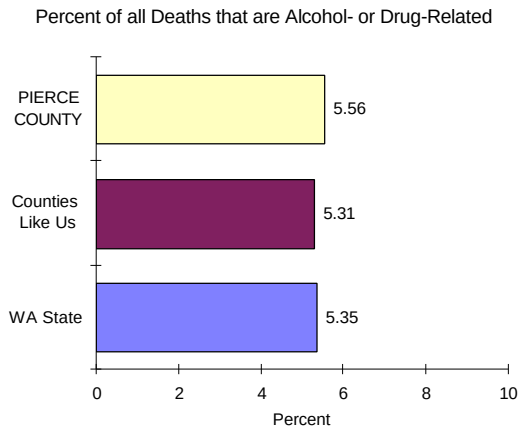
Content and Organization of this Report

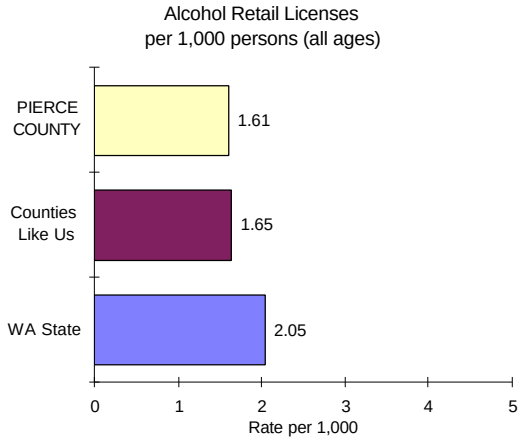
Comprehensively, this report provides county-level prevention planners with uniformly collected data on the county's known risk factors for alcohol and drug abuse and the prevalence of other behavior problems related to substance abuse. The report also provides guidelines for interpreting the data and a framework for applying this information to the tasks of prevention program planning and needs assessment.

Chapter 1 provides a general overview of the context and content of the report. Chapter 2 reviews some of the research on risk and protective factors, and connects that research to the indicators presented in this report. Chapter 3 reviews recent research on prevention planning and identifies some promising approaches which fit well with the risk and protective factor approach. Chapter 4 explains how the data are presented, and presents some guidelines for interpretation. Chapters 5, 6, and 7 present the collected data on risk factors, protective factors and additional outcomes, respectively. Chapter 8 presents standardized indicator and risk factor measures.

Examples of Information Presented in this Report

Two examples of indicator data are shown below. The county rate of Alcohol and Drug Related Deaths as a percent of all deaths is one of several proxy measures selected for the risk factor *Family History of High Risk Behavior*. The county rate of Alcohol Retail Licenses per 1,000 persons is one of the proxy measures for the risk factor *Availability of Drugs*. Each indicator rate is compared to the state rate and to a rate for similar counties ("Counties Like Us").





Important Questions This Report Can Answer

The following questions can be answered from the data presented in this report:

- What are the levels of youth problem behaviors in my county?
- What is my county's level on each indicator of risk?
- How does my county compare with Washington State as a whole and other similar counties on these indicators of risk and problem behavior?
- Do the specific indicators for a single risk factor construct all point in the same direction?
- On which risk factors is my county high or low, relative to other similar counties and to the state as a whole?

Important Questions This Report <u>Cannot</u> Answer

In particular, the following questions are not answered in this report:

- Why does my county have low scores on one measure of a risk factor and high scores on another measure of the same risk factor?
- How do the indicators vary across smaller areas or by subgroup within my county?
- Which risk factors or indicators are most highly associated with substance abuse and thus are the most important ones to consider?
- What is the overall level of substance abuse risk and prevention need in my county relative to others?
- Which risk factors are easiest to modify?

Use the Information in this Report with Care

The risk and protective factor approach does not provide a "cook book" to planning prevention interventions.

The risk and protective factor approach does not provide a "cook book" to planning prevention interventions. This report provides some general guidelines for planning using risk and protection, and some references for those interested in more information. However, understanding how to apply the information presented here within a particular county requires knowledge of local conditions, local risks, and local communities. It also requires knowledge of local prevention services already in place, which may affect the risk levels reported here.

1 INTRODUCTION

Substance Abuse Costs Money, Causes Harm and Is Increasing Among Youth

The lives of many Washington State residents have been impacted by the misuse of alcohol, tobacco, or other drugs -- either their own or that of a family member, close friend, neighbor, or co-worker. Even drug use by complete strangers holds the potential for affecting our own lives, indirectly as in higher health care and insurance costs, or directly as in tragic substance use-related traffic injuries and fatalities.

Because substance abuse is either a direct or contributing factor in so many adverse social and health outcomes, it is difficult to estimate accurately the societal costs for which it is responsible. Somewhat conservative national estimates of the monetary costs of substance use include:

- $58.3 billion in illicit drug use in 1988 (Rice, Kelman, and Miller, 1991)
- $136.3 billion in alcohol use in 1990 (Harwood, 1985)
- $88 billion in cigarette use in 1995 (Harris, 1994)

The direct monetary cost of alcohol, tobacco and illicit drug use is over $1,000 for every man, woman and child in this country.

Adjusted for inflation, these figures translate to a direct monetary cost of over $1,000 attributable to the use of alcohol, tobacco, and other drugs for every man, woman, and child in the country. Added to that is the incalculable toll on the emotional and physical suffering of those whose well-being and happiness are compromised by the impact of substance abuse.

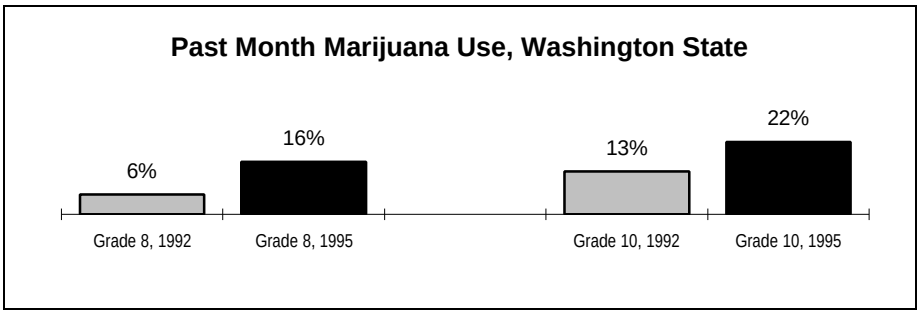
Progress in reducing the levels of substance abuse, and the harm that it causes, has been made on some fronts. Both nationally and in Washington State, alcohol-related traffic fatalities have been reduced substantially over the past two decades, and the overall prevalence of cigarette smoking continues to decline. National surveys have also indicated declining rates of illicit drug use among youth from the late 1970's through about 1990.

Between 1992 and 1995, illicit drug use during the past month more than doubled among U.S. youth aged 12-17.

However, in recent years there has been an alarming increase in the prevalence of illicit drug use among our nation's youth. Results from the National Survey on Drug Abuse show an increase in past month use of any illicit drug among youth (ages 12-17) from 5.3% in 1992 to 10.9% in 1995 (U.S. Department of Health and Human Services, 1996). The prevalence of use for marijuana, cocaine, and hallucinogens have all increased substantially within this time span.

Between 1992 and 1995, the percent of students who had used marijuana at least once during the past month more than doubled for 8th and almost doubled for 12th graders.

In Washington State, results from the school-based Washington State Survey of Adolescent Behaviors showed similar trends. Between 1992 and 1995, the percent of students who had used marijuana at least once during the past month more than doubled for 8th and almost doubled for 12th graders.



During the same period, binge drinking rates increased among Washington students, as did experimental (lifetime) use of tobacco, marijuana, and other illicit drugs.

The Critical Role of Prevention in Reducing Substance Use

Strong measures must be taken quickly to reverse the current trend in substance use increases among youth.

The reason for the recent resurgence in substance use by adolescents is not clear. Some have speculated that we have relaxed our efforts to adequately convey the negative health and social consequences of drug use to our youth. Others have suggested that today's young people face a more complex and disconcerting social reality than their predecessors. Whatever the reasons, it is clear that strong measures must be taken quickly to reverse the current trend.

Whatever the cause, a preventive approach to reducing drug use makes good sense. In too many cases, much damage is already done if we wait until we see the visible signs and signals of an adolescent in trouble with drugs. Most research shows that substance abuse begins in adolescence, and if the use of substances at these ages can be prevented or minimized, then later more serious use and the problems associated with that use may be averted.

The costs of prevention are likely to be far less than the costs of either doing nothing or relying only on treatment or incarceration.

From a societal perspective, the costs of effective prevention are likely to be far less than costs associated with either doing nothing or relying only on treatment or incarceration of chronic substance abusers.

”Risk factors” are characteristics which are associated with increases in substance abuse.

“Protective factors” are characteristics which reduce or moderate the influence of risk factors.

DASA has adopted a risk and protective factor-based framework as the foundation of its statewide prevention planning.

Choices for prevention approaches and specific strategies are numerous and diverse. What is needed is a framework that can help prevention program planners make informed decisions concerning which strategies to implement and where prevention programs are most needed. Recent developments in prevention science have shown that there are characteristics of individuals and their familial and social environments that seem to affect the likelihood of negative outcomes such as substance abuse. Just as in research on heart attacks, stroke and cancer, these characteristics are divided into “risk” and “protective” factors.

Risk factors are characteristics of people or their family, school and community environments which are empirically associated with increases in substance abuse. Other characteristics function as **protective factors**, which serve to reduce or moderate the influence of risk factors.

In the late 1980’s, Professors J. David Hawkins, Richard Catalano and their associates at the University of Washington reviewed and synthesized three decades of research on risk and protective factors for adolescent substance abuse. The application of this research-guided framework to substance abuse prevention calls for interventions which are designed to reduce levels of risk and enhance levels of protection, particularly for those exposed to multiple risks. This framework has been adopted by the Division of Alcohol and Substance Abuse (DASA) as the foundation of its statewide prevention planning approach.

Implementing a Data-Driven Approach to Prevention Planning

To implement the framework at the county level, the levels of specific risk and protective factors in each county need to be assessed.

In 1993, DASA changed its contracting practices with counties and direct service providers (for a brief history of DASA and prevention planning in Washington State, see Appendix E). The change moved contractors from prioritizing programs and strategies to prioritizing risk factors associated with adolescent substance abuse. Once the risk factors were prioritized, the proposed prevention strategies were required to address high-priority risk factors and also to include the enhancement of protective factors.

Research suggests that the pattern of risk and protection varies from county to county. Therefore, to implement the risk and protective factor framework in prevention planning at the county level, the levels of specific risk and protective factors in each county need to be assessed. This information can then be integrated into the planning process along with the other considerations and sources of information that drive program planning activities. This approach will help to insure that prevention planning will proceed in a rational and effective manner, leading to planning decisions that are empirically justifiable and guided by the findings of scientific research.

During the past three years, Washington State has been involved in a federally funded research project to develop county-level measures of risk and protective factors.

Over the past three years, DASA and the Office of Research and Data Analysis (ORDA) have been involved in a project funded by the federal Center for Substance Abuse Prevention (CSAP) to facilitate this process. In collaboration with five other states plus Professors Hawkins and Catalano and their colleagues at the University of Washington, a set of 17 risk factor constructs and 7 protective factor constructs that have been shown in the research literature to be predictive of substance abuse were identified. For each risk and protective factor, two sorts of measurements were defined: (1) indicators to be collected from existing databases at a county level were proposed, and (2) questions were added to existing school surveys in all six states.

The six states were responsible for implementing the school surveys and collecting the indicator data. The university researchers have carried out preliminary analyses connecting the information on the school surveys with the indicators, thus "validating" the indicators. As a result of these preliminary investigations, some indicators were collected but are not reported here. Although the validation work continues, the indicators presented here are ready to use in planning and prevention assessment.

Major Purposes of This Report

To provide county data on risk and protective factors for alcohol and other drug abuse.

To provide guidelines for interpreting county data.

To provide a framework for applying this data to prevention planning

The purpose of this report is to provide county-level prevention planning efforts with uniformly collected data on the county's known risk factors for alcohol and drug abuse and the prevalence of substance abuse related problems in behavior. The report also provides guidelines for interpreting the data and a framework for applying this information to the tasks of prevention program planning and needs assessment.

Chapter 2 reviews some of the research on risk and protective factors, and connects that research to the indicators presented in this report. Chapter 3 reviews recent research on prevention planning, to identify some promising approaches which fit well with the risk and protective factor approach. Chapter 4 explains how the data are presented, and presents some guidelines for interpretation. Chapters 5, 6, and 7 present the collected data on risk factors, protective factors and additional outcomes, respectively. Chapter 8 presents standardized indicator and risk factor measures.

2 RISK AND PROTECTIVE FACTORS IN THIS REPORT

Research on Risk and Protection

Research suggests that a common core of risk and protective factors underlies the interrelated adolescent problem behaviors of substance abuse, violence, delinquency, suicide, teen parentage and school failure.

The model of risk and protective factors used in this report is based on the work of J. David Hawkins, Richard Catalano and their team of researchers at the University of Washington. Hawkins, Lishner, and Catalano, 1985; Hawkins, Catalano, and Miller, 1992; Hawkins, Arthur, and Catalano, 1995). Brief summaries of the particular risk and protective factors discussed in their model, and their effects on substance abuse, are provided in Tables 1, 2 and 3. Findings from the research studies which identified those factors are summarized in Appendix C.

Hawkins and Catalano have also reviewed risk and protective factors for delinquency (Hawkins, Lishner, Jenson, and Catalano, 1987). Other researchers, including Joy Dryfoos (1990), Robert Slavin (1989), and Richard Jessor (1986), have reviewed the literature on other problem outcomes, including behavior problems, school dropouts and teen pregnancy, and identified risk factors for these problems.

Many of these researchers noted that a teenager who is having trouble in one of these areas is also likely to be having trouble in another area (Jessor and Jessor, 1977; Jessor, 1991; Osgood, 1991). While there are some unique factors influencing each problem, there is a common core of risk and protective factors which seem to underlie the interrelated adolescent problem behaviors of substance abuse, violence, delinquency, suicide, teen parentage and school failure.

This report concentrates upon providing information on risk and protective factors which are empirically related to early initiation of substance use or to substance abuse in young people. However, because these same risk factors also influence other problem behaviors, it also includes some indicators of other problem behaviors among young people (such as early pregnancy and violence). This information may be useful in joint planning for prevention interventions which affect multiple outcomes.

Human Development Within Nested Social Environments

Substance abuse risk is a developmental outcome, influenced by events and processes which happen many years before the substance use or misuse occurs.

Two basic structuring ideas are woven through the risk and protective factor model. First is the development over time of the individual human being: from infant to toddler to school age child to adolescent to adult. Substance abuse risk is best understood as a developmental outcome, influenced by events and processes which happen many years before the substance use or misuse occurs.

There are many overlapping social environments where people are exposed to certain risks and protections. These environmental domains also help define and influence smaller domains that are nested within.

Second is the notion of nested social environments. The family, the neighborhood, the school, the church or synagogue, the peer group, the tribe, and the community are all social environments for young people. Each environmental domain exposes those within it to certain risks and protections and also helps to define and influence whatever smaller domains are nested within. Even risk and protective factors which pertain to individuals (such as poor school performance) are influenced by features of the past and present school, family and community environments in which those individuals live. Effective prevention planning must take into account risks and protections built into **all** environments in which young people participate.

Effective prevention planning must take into account risks and protections built into all environments in which young people participate.

In the past, much substance abuse prevention activity has concentrated on altering individual behavior and attitudes of young people in school settings, at the age just before substance use begins (Emshoff, 1996). This is still an important area for prevention planning, but the risk and protective factor model suggests that there are other important times and areas of intervention. Some may be addressed to earlier stages in individual development (attempting to reduce early grade school failure rates, for example). Others may be aimed directly at altering environments (decreasing substance availability, for example) rather than individuals.

It is the reality of nested environments which makes the community level so important in prevention planning. This level includes families, schools and neighborhoods, so it provides the broadest and most inclusive platform from which to mobilize prevention activities at multiple levels. Strategies targeted directly to individuals, families or schools must be cognizant of the broader community context in which they operate and the importance of addressing risk factors through multiple levels and strategies. Beginning with schools or families, it is much more difficult to move to communities.

Conceptual and Operational Risk Factors in This Report

Risk and protective factor constructs were identified based upon their empirical relationship with substance abuse or early onset of use.

The conceptual and operational risk factors presented in this report are defined in Table 1 on the following two pages. They are divided into four domains: Community, Family, School and Individual/Peer. Each risk factor presented in this table has an empirically demonstrated relationship to substance abuse or to early onset of use. Findings form the research studies which identified these factors are shown in Appendix C. More detailed discussion may be found in Hawkins, Lishner, and Catalano (1985), Hawkins, Catalano, and Miller (1992), a report by the Institute of Medicine edited by Mrazek and Haggerty (1994), and Hawkins, Arthur, and Catalano (1995).

The empirical research on risk and protective factors has stemmed from survey or longitudinal data on individuals. The best "match" between existing research and data would be to collect survey data from a representative sample of the youth and adults in each county. However, such household surveys would be quite expensive to administer and manage, especially on an ongoing basis. School surveys offer a potential and less expensive method of collecting individual data, but to offer reliable county estimates for all counties, more than half the school districts in the state would need to participate.

This report provides either direct or proxy measures for risk factor constructs which are drawn from existing state and local archival databases, collected by state agencies as part of their on-going business.

The approach taken in this report is, wherever possible, to provide either direct or proxy measures for risk factors and problem outcomes which are drawn from existing state and local archival databases, collected by state agencies as part of their on-going business. These databases often directly count some event -- for example, "Number Of Children Reported As Abused Or Neglected In County X." These events can be matched with population-based data to produce a county rate – for example, "Children Reported As Abused And Neglected Per 1000 Children In County X." The underlying assumption in presenting these data is that people in different communities (or counties) experience different levels of risk, and that some of this risk can be measured, albeit imperfectly, with uniform data that are already available.

If no archival data source could be identified as a reasonable proxy for a risk factor, then school survey data for the appropriate region is presented. Note, however, that while each county within a school survey region might have quite different rates, the regional school survey measure is a weighted average of those differences.

Table 1: Conceptual and *Operational* Measures of Risk Factors

Community Domain	
AVAILABILITY OF SUBSTANCES	
Both actual availability and perceived availability influence consumption and initiation of alcohol and other drug use.	*Alcohol Sales Licenses per 1,000 persons.* *Tobacco Sales Licenses per 1,000 persons.*
COMMUNITY LAWS AND NORMS	
Community policies and laws which affect alcohol and other drug use include tax rates, drinking ages, drug offenses and legalization.	*Average Length of Prison Sentence for Drug Offenses.*
LOW NEIGHBORHOOD ATTACHMENT & COMMUNITY DISORGANIZATION	
Higher rates of drug problems occur in areas where people have little attachment to their communities, where residents feel little motivation to improve their surroundings These conditions occur in high as well as low-income areas.	*Population Registered to Vote as a Percent of All Adults.* *Residential Vacancies as a Percent of All Housing Units.*
TRANSITIONS & MOBILITY	
Neighborhoods characterized by high rates of transition and mobility disrupt social networks and require schools to constantly deal with new students	*Existing Home Sales per 1,000 Persons.* *Residential Building Permits per 1,000 Persons.* *Rental Households as a Percent of All Households.* *Moved Within County in Last 5 Years as Percent of 1990 Persons.* *Moved from Outside County in Last 5 Years as Percent of 1990 Persons.*
EXTREME ECONOMIC & SOCIAL DEPRIVATION	
Being poor is a risk factor for substance abuse, but living in a neighborhood where many people are extremely poor and have little hope for the future is also a risk factor, even for those who are better off.	*Children in AFDC Families per 1,000 Children, Aged 0-17.* *Food Stamps Recipients per 1,000 Persons.* *Free/Reduced Lunch Students as Percent of All Students.* *Unemployed Persons as Percent of the Civilian Labor Force.* *Exhausted Unemployment Benefits as a Percent of Unemployed Persons.* *Persons Below the Poverty Level as Percent of all Persons.* *Children Below the Poverty Level as Percent of all Children.* *Families Below the Poverty Level as Percent of all Families.* *Female Headed Households as Percent of Family Households with Children.* *Per Capita Income.* *Low Birthweight Babies Born per 1,000 Live Births.*
School Domain	
LACK OF COMMITMENT TO SCHOOL	
Teenagers who are not "invested" in school, or in what completing school might mean for their future, are more likely to abuse substances.	*High School Dropouts as Percent of all Persons, Aged 16-19*
ACADEMIC FAILURE IN GRADE SCHOOL	
Children who fail in elementary school are at risk for substance abuse when they become teenagers. The persistent experience of failure in school, rather than low ability, is the major risk factor.	*GED Certificates Issued per 1,000 Persons.* *Low Grade 4 Battery Tests as a Percent of all Test-Takers.* *Low Grade 8 Battery Tests as a Percent of all Test-Takers.*
EARLY, PERSISTENT BEHAVIOR PROBLEMS	
Aggressive, hyperactive, antisocial, "difficult" children aged 5 to 10 are more likely to use and abuse substances as adolescents and adults.	*Regional School Survey Scores on Antisocial Behavior.*

Table 1 *(continued)*

Family Domain	
FAMILY HISTORY OF SUBSTANCE ABUSE AND OTHER HIGH RISK BEHAVIORS	
Children raised in a family with a prior history of alcoholism or other chemical dependency are at greater risk for substance abuse. Genetic factors and family dynamics probably interact to explain this increase.	*Alcohol and Drug-related Deaths as a Percent of all Deaths.* *Adults in Alcohol and Other Drug Treatment Programs per 1,000 Adults.* *Less than High School Graduate as Percent of all Adults.* *High School Graduate Only as a Percent of all Adults.* *Prisoners in State Correctional System per 100,000 Persons.*
FAMILY MANAGEMENT PROBLEMS	
Family management practices which increase the risk of substance abuse include unclear behavioral expectations, failure to monitor the whereabouts and activities of children, and severe or inconsistent punishment.	*Victims in Reported Child Abuse and Neglect Referrals per 1,000 Children.* *Victims in Accepted Child Abuse and Neglect Referrals per 1,000 Children.* *Children Living Away from Parents per 1,000 Children.* *Children Living in Foster Care per 1,000 Children.*
FAMILY CONFLICT	
Persistent serious conflict between primary caregivers or caregivers and children increases the risk of substance use in the children. Conflict matters more than being a single-parent family.	*Divorce Rate - Number of Divorces per 1,000 Adults.* *Single Parent Family Households as Percent of Family Households with Children.* *Domestic Violence Arrests per 1,000 Adults.*
FAVORABLE PARENTAL ATTITUDES AND INVOLVEMENT IN CRIME AND DRUGS	
Parental attitudes and behavior towards drugs influence the attitudes and behaviors of their children. The parent's own use is important, and so is his or her attitudes towards usage in young people. Most risky is involving the child in the parent's behavior (e.g. "bring me a beer").	*Alcohol-related Traffic Fatalities as a Percent of All Traffic Fatalities.* *Adult Drunken Driving Arrests per 1,000 Adults.* *Adult Alcohol-related Arrests per 1,000 Adults.* *Adult Drug-related Arrests per 1,000 Adults.* *Adult Violent Crime Arrests per 1,000 Adults.* *Adult Property Crime Arrests per 1,000 Adults.* *Women Using AOD Treatment During Pregnancy per 1,000 Babies Born.*
Individual / Peer Domain	
ALIENATION, REBELLIOUSNESS, AND LACK OF SOCIAL BONDING	
Young people who do not feel part of society, neither bound by society's rules nor interested in its rewards, are at higher risk of substance abuse.	*Youth Suicides and Suicide Attempts per 100,000 Youth, Ages 10-17.*
EARLY INITIATION OF PROBLEM BEHAVIOR	
The younger a person is when using a substance for the first time, the more likely the occurrence of chemical dependency problems later.	*Regional School Survey Results on Personal Attitude Toward Substance Use.*
FRIENDS WHO ENGAGE IN THE PROBLEM BEHAVIOR	
Having friends who use/abuse precedes and predicts teen use and abuse.	*AOD-related Arrests per 1,000 Children, Ages 10-14.* *Violent Crime Arrests per 1,000 Children, Ages 10-14.* *Property Crime Arrests per 1,000 Children, Ages 10-14.* *Vandalism Arrests per 1,000 Children, Ages 10-14.*
ATTITUDES FAVORABLE TOWARD THE PROBLEM BEHAVIOR	
Changes in substance use patterns are almost always preceded by changes in attitudes towards substance use.	*Regional School Survey Results on Substance Use by Peers.*
CONSTITUTIONAL FACTORS	
Constitutional factors related to substance abuse include sensation-seeking, low harm-avoidance and lack of impulse control.	*Regional School Survey Results on Sensation-Seeking.*

What are the Protective Factors for Substance Use and Abuse?

Some children seem to emerge unscathed from exposure to multiple high risks. The research of Brook and her colleagues (1990); Werner (1989), Rutter (1987), Garmezy (1985) and others identified some protective factors operating at several levels: the individual's temperament and characteristics, the family, other social groups, and the individual's attitudes and beliefs. These factors are described below. The research which supports them is summarized in Appendix D.

• *Individual Characteristics*	Several individual characteristics protect against substance abuse: being female, having a resilient temperament, and being generally positive and optimistic.
• *Bonding To Family*	Having warm and supportive relationships with parents or other primary caregivers who expect the child to succeed in society protects against substance abuse.
• *Bonding to Others who Support Non-Drug Use*	Bonding to teachers, other adults and peers who both (1) reinforce the individual's competence by providing opportunities for positive involvement and (2) support not using drugs was associated with lowered drug use. This is particularly important for children exposed to multiple risks.
• *Healthy Beliefs and Clear Standards*	Norms, beliefs or standards which oppose the use of illegal drugs or alcohol by teenagers were associated with less use.

How Can Prevention Interventions Modify Protective Factors?

Some of these protective factors are relatively resistant to change. Hawkins and Catalano concentrated upon defining protective factors which could be modified to provide more protection to persons at high levels of risk.

Research shows that when young people were attached ("bonded") to other persons and groups who delivered clear messages and standards opposing the use of illegal drugs or alcohol, the attitudes and behavior of those young people also moved away from substance use and other problem behaviors. They internalized and acted upon a clear moral standard.

Bonding takes place when people are given chances to participate in a group and are recognized by the group for their activities, efforts and successes. Increasing opportunities for conventional social participation and recognition is an important prevention strategy.

Research also showed that young people were better protected if they had the social skills to negotiate with friends who pressed them to use drugs or alcohol or engage in other problem behaviors. Therefore, the groups and individuals to which young people are bonded reinforce their moral standards, and that "social skills and resistance" may need reinforcing, particularly for high risk

youth.

No state agency collects data on the presence of protection. However, the 1993-94 School Survey asked questions designed to measure the protective factors defined below. The protective factor information is important, so this report presents regional measures of protection drawn from the school survey. Note that while each county within a school survey region might have quite different rates, the regional school survey measure is a weighted average of those differences. These factors are:

• *Community Rewards for Conventional Involvement*	When neighbors or community members praise or comment on a youth's activities and achievements.
• *Family Rewards for Conventional Involvement*	When parents, siblings and other family members praise, encourage and attend to things done well by their child.
• *School Rewards for Conventional Involvement*	Notice, praise and acknowledgment of each student's efforts, activities and achievements.
• *Opportunities for Positive Involvement in the Family*	Families do fun things together, and parents involve children in family decisions and planning.
• *Opportunities for Positive Involvement in School*	Students are encouraged to help make class decisions, and to develop close relationships with their teachers.
• *Belief in the Moral Order*	Young people who believe that cheating, lying, stealing, and beating people up are wrong.
• *Social Skills*	Young people who know how to negotiate, say no, and deal with peer pressure to perform wrongful actions.

Additional Youth Problem Behaviors Presented in This Report

A number of additional youth problem behaviors are presented in this report. Some of the risk factors discussed earlier could also be viewed as "problem behaviors" – for example, youth suicide rates (defined in this report as an indicator of alienation and rebelliousness). Together, these behaviors can be viewed as interrelated responses to more general risk and protective factors. They and the indicators that measure them are:

• *Substance Abuse Problem Behavior*	Adolescents in Alcohol and Other Drug Treatment Juvenile Arrests for Alcohol Violations Juvenile Arrests for Drug Law Violations
• *Sexual Problem Behavior*	Adolescent Sexually Transmitted Diseases Birthrate Among Adolescents
• *Delinquent and Criminal Problem Behavior*	Juvenile Arrests for Violent Crimes Juvenile Arrests for Property Crimes Juvenile Arrests-Curfew, Loitering, Vandalism, Disorderly Conduct Guilty Adjudications of Juveniles Juvenile Diversions

Important Questions This Report Can Answer

The following questions can be answered from the data presented in this report:

- What are the levels of youth problem behaviors in my county?
- What is my county's level on each indicator of risk?
- How does my county compare with Washington State as a whole and other similar counties on these indicators of risk and problem behavior?
- Do the specific indicators for a single risk factor construct all point in the same direction?
- On which risk factors is my county high or low, relative to other similar counties and to the state as a whole?

Important Questions This Report <u>Cannot</u> Answer

In particular, the following questions are not answered in this report:

- Why does my county have low scores on one measure of a risk factor and high scores on another measure of the same risk factor?
- How do the indicators vary across smaller areas or by subgroup within my county?
- Which risk factors or indicators are most highly associated with substance abuse and thus are the most important ones to consider?
- What is the overall level of substance abuse risk and prevention need in my county relative to others?
- Which risk factors are easiest to modify?

Use the Information in this Report with Care

The risk and protective factor approach does not provide a "cook book" to planning prevention interventions.

The risk and protective factor approach does not provide a "cook book" to planning prevention interventions. This report provides some general guidelines for planning using risk and protection, and some references for those interested in more information. However, understanding how to apply the information presented here to a particularly county requires knowledge of local conditions, local risks and local communities. It also requires knowledge of local prevention services already in place, which may affect the risk levels reported here

3 PLANNING FOR PREVENTION USING RISK AND PROTECTION

Key Principles of Risk and Protection-Focused Prevention Planning

Several important and interrelated principles of risk and protection need to be understood in planning prevention strategies. They are:

The more risk factors, the greater the risk.

Exposure to more risk factors increases the likelihood of abuse exponentially (Newcomb et al., 1986). Therefore, it is critical to design coordinated prevention efforts aimed both at reducing risk (where possible) and providing protection as a buffer (especially for risks which cannot be reduced). Multiple risks require coordinated, multiple strategies.

Target coordinated prevention to those at highest risk.

Because of the exponential increase in risk as risk factors increase, directing coordinated prevention to young people exposed to multiple risk factors is critical to the success of any prevention strategy. For some interventions (such as school-based curriculums or efforts to reduce local availability), geographic targeting works best. For others (such as visiting nurses in high-risk families) it may be more cost-effective to target high-risk families or individuals.

Risk factors exist in multiple environmental domains. Therefore, prevention strategies should attempt to take all domains into account.

Because young people live in multiple environmental domains and are affected by risk and protection in all of them, it is important to explore all domains before deciding where to invest in prevention. It is unlikely that investing only in one domain (e.g., concentrating only on families or only on schools or only on peer strategies) will be as effective as a coordinated, inter-domain approach.

The relative importance of risk and protective factors varies with age and stage of development.

Effective prevention strategies pay attention to the risk and protection factors which are important at the age and stage of development of the targeted persons. For example, tutoring or classroom intervention programs may be indicated for children who are having conduct and behavior problems in early elementary school, but that would probably be too early to begin a “drug resistance” curriculum.

Common risk factors predict diverse behavior problems.

While this report concentrates upon substance abuse risk, it should be understood that a number of adolescent problem behaviors are predicted by the presence of common risk factors. When one of those risk factors is reduced, it will affect a number of different problem behaviors. In a similar manner, common risk factors occur in cardiovascular disease reduction. Reducing one risk factor, such as smoking, decreases the risks for lung, throat and mouth cancer and emphysema, as well as heart disease.

Protective factors buffer exposure to risk. Therefore, prevention efforts should enhance protection among those exposed to greatest risk

The importance of protective factors cannot be overstated. Because many of the young people at greatest risk live in multiple high-risk environments, the process of reducing their risk may seem overpowering. However, strengthening protection in more than one sphere provides a way to work with those young people immediately, without feeling that the seemingly insoluble interconnected risks in the environment must first be overcome.

Effective prevention programs must be "culturally competent." However, risk and protective factors operate similarly in persons of different races, cultures and classes.

It appears that risk and protective factors operate similarly in persons of differing classes, races and cultures. However, levels of risk factors, ideas about appropriate parent-child behavior, reasonable expectations of citizenship, and attitudes towards middle-class "success" vary across social and cultural groups. Therefore, any prevention strategy needs to be developed and implemented in a culturally competent manner if it is to be effective across groups.

Commonly Used Prevention Approaches and Their Effectiveness

The National Structured Evaluation (NSE) Study of Prevention reviewed 1,642 prevention study reports and evaluated 309 that met requirements for scientific rigor.

There are many substance abuse prevention interventions being developed, used and (sometimes) evaluated. The National Structured Evaluation (NSE) study, a recent Congressionally mandated prevention evaluation study (Emshoff, 1996), reviewed 1,642 prevention study reports which had "sufficient detail to permit initial coding of activities, population served, and implementation characteristics. However … only 309 of those initiatives provided sufficiently rigorous evaluation reports to meet the NSE's analytical requirements" (pages 2-3)

The NSE researchers used a cluster analysis to derive seven often-used prevention approaches from combinations of the 1,642 interventions in their database, and used the 309 programs with rigorous evaluations to review the effectiveness of each approach across three dimensions: changes in AOD attitudes, changes in AOD outcomes, and changes in risk and protective factors.

The approaches described in the NSE are probably familiar to most persons active in substance abuse prevention. Brief descriptions and the overall assessments of effectiveness are shown in Table 2 on the following page.

Table 2: Common Prevention Approaches and Their Effectiveness Ratings (NSE)

Prevention Approach	*Targeted Population & Duration*	*AOD Knowledge & Attitudes*	*AOD Behavior*	*Risk & Protective Factors*
Positive Decision-making (149 examples). *Didactic AOD education.* *Personal skill development.*	Schools. Semester or less.	Child 2.9 Teen 3.3 Adult 2.9	Adult 2.9	Adult 3.0
Safety/Health Skills (15 examples): *General safety or health education.* *Didactic AOD education.* *Personal skills development.* *Specific, task-oriented skill training.*	Suburban schools. No high-risk. Semester to Year.	Teen 3.3	Teen 3.0	Child 3.5
Psychosocial Skills (68 examples). *Specific, task-oriented training.* *Personal skill training.* *50% added either drug free recreation or wilderness challenge.* *25% added "cultural regrounding."*	Schools in large cities or small rural areas and tribes. Times varied.	Adult 3.0	Child 3.7 Teen 3.0 Adults 2.9	Teen 3.2 Adult 3.2
Counseling Intensive (67 examples). *Individual/family counseling* *Didactic AOD education.* *75% added personal skill training.* *50% added specific task training.*	High-risk individuals & families. 3-6 months.	Adult 3.0		Teen 2.9
Case Management (46 examples). *Individual counseling.* *Case management.* *Specific, task-oriented training.*	High-risk or former AOD clients. 12+ months.			Adult 3.0
Multidirectional (81 examples): *Access to drug-free activities* *Personal skill development.* *Specific, task-oriented training* *Didactic AOD education* *Cultural re-grounding.* *60% added individual counseling.*	High-risk minority youth. All services provided to all clients. Times varied.			
Environmental Change (207 examples) *Formal and informal linkages across groups and individuals.* *10% added restrictions on AOD sales, distribution and use, or increased reinforcement of existing restrictions.* *20% added training of community intermediaries such as bartenders and wait-persons.*	Whole population. Individual change agents targeted because they affect the population.		Adult 2.9	Teen 3.4 Adult 3.2

SOURCE: Emshoff, 1996. Effectiveness ratings are a modification of table on page 93. Ratings were derived from a modified Q-sort, in which several independent raters assessed each approach, using the following scale: 1 was "negative impact," 2 was "no net impact," 3 was "net small positive impact," 4 was "moderately effective," and 5 was "most effective." Approaches scoring less than 2.8 were deemed "not effective" and were not included on this table.

Promising Interventions Which Reduce Risk and Enhance Protection

Newer Approaches

The Congressionally-mandated NSE concentrated on the most commonly used substance abuse prevention interventions. This section, however, describes some more unusual types of prevention interventions which show promise for substance abuse prevention because they:

- address risk factors at appropriate developmental stages;
- enhance bonding to groups and individuals who promote healthy behaviors, beliefs and standards;
- promote both cognitive and social skill development; and
- use intervention techniques which have empirically demonstrated positive effects either in reducing substance abuse, risk factors for substance abuse, or other related poor behavioral outcomes.

Six Types

The following types of promising interventions are discussed:

Prenatal/Infancy (ages 0-2)	Interventions targeted to high-risk mothers and infants. Offers home visits covering health, parenting and family support, and health screens/medical care.
Early Childhood (ages 2-5)	Interventions targeted to high-risk preschoolers and their families. Offers early childhood cognitive/developmental screens to children and parenting/health/support to parents.
Early Elementary (ages 6-11)	Interventions targeted to high-risk elementary schools. Focus on improving school success by changing school environments and/or child's readiness and/or home environment.
Middle and High School (ages 12-17)	Interventions targeted to middle and high-school students. Focused on strengthening norms against drugs and social resistance, enhanced by general social/school skills.
Limit drug availability in community	Community interventions to limit access to and availability of alcohol and other drugs.
Community programs involving multiple strategies	Community-wide interventions involving multiple interacting prevention strategies in all domains.

Additional Reading

For additional information about new prevention approaches, consult the following review articles (Hawkins, Arthur and Catalano, 1995; Institute of Medicine, 1994; Yoshikawa, 1994; U.S. General Accounting Office, 1994; Botvin, 1990).

Prenatal and Infancy Programs Providing Parenting and Family Support

These programs are aimed at the prenatal period for high-risk families. They generally feature prenatal care, home visits (often by a nurse) during the first year of the infant's life.

After four years, intervention mothers in the Prenatal/Early Infancy Project had fewer additional pregnancies, more months employed, fewer days on welfare, fewer child abuse cases, and fewer premature deliveries.

In 1986, David Olds and his colleagues (Olds et al., 1986, 1988) began the evaluation of a sample of pregnant women in a high-risk geographic area characterized by high levels of poverty, teen and unmarried parents, and child abuse and neglect. The test compared randomly assigned groups who received either developmental screening of the children at one and two years of age, referrals for services, and transportation to well-child clinics or all of those services combined with home nurse visitation during pregnancy and until the children were two years old (the intervention group).

Positive outcomes which reduced substance abuse risk factors for both the mothers and children were found. At the four-year follow-up, intervention group mothers had 43 percent fewer additional pregnancies, had worked 82 percent more months, and had spent fewer days on welfare. Moreover, there were 75 percent fewer child neglect cases and a 75 percent reduction in premature deliveries. These are all reductions of risk factors for later substance abuse among the children of those mothers. Unfortunately, there were no long-term evaluations of the effects on intervention group children.

The Yale Child Welfare Project intervention cost $20,000 per family and saved $40,000 in each of the succeeding ten years

The Yale Child Welfare Project (Provence and Naylor, 1983; Seitz, Rosenbaum, and Apfel, 1985; Seitz, 1990). Seventeen women expecting their first child who were below the federal poverty level and neither seriously retarded nor acutely psychotic were selected and agreed to participate. The intervention began during the mother's pregnancy and lasted only thirty months. It included an average of 28 home visits, intensive pediatric care, 13 months of very high quality day care, and seven to nine developmental exams. A matched set of mothers recruited from the same clinic after the intervention ended served as the control group.

Positive outcomes which reduced risk factors were found after years. These included: higher levels of mother's education, fewer additional children, greater likelihood of full-time maternal employment, and a greater tendency for the mother to contact the child's teacher. Intervention group children had better student ratings, were less likely to be absent from school without excuse, and were less likely to have been referred to classes for emotionally disturbed children. The authors estimate that the intervention cost $20,000 per family and saved $40,000 in each of the succeeding ten years.

Early Childhood Programs Providing Education and Family Support

The next set of promising interventions begins with children at about one year of age and works with them until they are three, addressing the major cognitive tasks of this age, which include preparation for success in school, as well as modifying parental behavior in ways which support children's school success.

In grades 2 through 5, intervention group children from the Houston Parent-Child Development Project had fewer behavior problems, were less likely to have been referred for special services and scored higher on the Iowa Test of Basic Skills.

The goal of the Houston Parent-Child Development Center (HPCDC) was to promote school competence among Mexican-American children from below-poverty families. Approximately 100 families per year were recruited over an eight-year period, fully informed about the project, and then randomized into equal-sized control and intervention groups.

The intervention had two phases. During the first year, trained female para-professionals visited the homes 25 times, covering child development issues and information about how the mothers could affect their child's development. Workshops were provided for fathers and siblings. Mothers were encouraged to attend ESL classes, and additional social, health and referral services were provided as needed.

During the second year, the mothers and their children attended four-hour sessions four days a week at the center, where the children were taught cognitive and group skills while the mothers continued to learn child management and developmental skills, as well as home management, human sexuality and driver's education classes. Fathers continued to be involved through a monthly parent council. Transportation and day care was provided for siblings and all teachers were bilingual. Even so, attrition was a serious problem and almost half of the families dropped out before the end of the intervention.

Despite the attrition, positive findings which reduced risk factors for substance abuse were reported. In grades 2 through 5, intervention group children had fewer behavior problems, were only one fourth as likely to have been referred for special services and scored higher on the Iowa Test of Basic Skills than control group children (Johnson and Breckenridge, 1982; Johnson, 1988).

The Perry Preschool Project, based in a low-income, predominantly African-American neighborhood in Ypsilanti, Michigan, is a second example of a successful preschool intervention. The intervention targeted three and four year olds and used the High/Scope curriculum. Children were actively involved in planning their classroom activities, and met every weekday for thirty weeks each year. There were also weekly home visits to each child by one of the preschool teachers. Families participated for one to two years.

At age nineteen, Perry Preschool Project children were less likely to have been arrested, to have been arrested five or more times, to have had special education placements, to have dropped out of school, or been on welfare. Intervention children had higher grade-point averages.

Perry preschool long-term follow-ups have been remarkable. During elementary school, the intervention children had lower rates of aggressive, disobedient and disruptive behavior than the control group. At age nineteen, intervention children were less likely to have been arrested, to have been arrested five or more times, to have had special education placements, to have dropped out of school, or been on welfare. Intervention children had higher grade-point averages. These long-term findings were related to teacher ratings of conduct in elementary school, suggesting that the effects on long-term outcomes were through more successful grade school experiences. The Perry Preschool Project did not evaluate substance abuse outcomes, but it did succeed in affecting many of the risk factors leading to substance abuse.

Providing Academic and Social Skills for Early Elementary Children and Enhancing School Environments: Targeted to High-Risk Schools

Elementary school represents the first major domain in which a child must succeed or fail outside the family. New cognitive, social and impulse control skills are required to succeed in school. Failure in elementary school has powerful effects on the child's future life. Risk reduction interventions during this period typically focus on enhancing parenting and family functioning to support children's school success, enhancing the child's own social and academic competence, and changing the school environment to be more supportive and inclusive of children who are having difficulties.

The Seattle Social Development Project (Hawkins, Von Cleve, and Catalano, 1991; and Hawkins, Catalano, Morrison et al., 1992) began with first graders in eight Seattle schools which were selected based on high crime rates in their attendance areas. One school was selected as treatment, and one as control; first graders in the other six schools were randomly assigned either to a treatment or control classroom.

The intervention continued for four years, following a cohort of students from first through fourth grades, and combined teacher training, parent training and social skills training for first graders in eight Seattle schools. Teachers were trained in proactive classroom management, interactive teaching, and cooperative learning techniques to increase opportunities for students to participate successfully, be involved, and be rewarded for their involvement. First grade teachers were also trained in a social skills curriculum developed by Shure and Spivak (1988). Parents of first graders were offered training on monitoring children's behavior, using appropriate and consistent rewards and discipline, and involving children in family activities. Parents of second and third graders were offered a program which helped them foster a child's school achievements.

By fifth grade, intervention students in the Seattle Social Development Project reported higher bonding to family and school and more proactive family management, and were less likely than controls to have initiated alcohol use or delinquent behavior.

Positive effects were seen at the end of second and fifth grades. By the start of fifth grade, students who had participated in an intervention classroom for at least one semester reported significantly higher bonding to family, school and more proactive family management and communication than control students. Intervention group students were less likely to have initiated alcohol use or delinquent behavior by fifth grade than students in the control group.

A second intervention designed to change school environments to enhance the success of students is the School Development Program created by Comer and his associates at the Yale Child Study Center (Comer, 1985, 1988). The intervention aims to create a positive school climate by involving a range of stakeholders in the schools. Parents, teachers, school administrators and mental health professionals join to form a school management team, a mental health team, and a parent involvement team. The management team meets weekly to address school issues; the mental health team also meets weekly to consider student behavior problems in an interdisciplinary perspective, to determine if the school is contributing to the behavior problems, and to recommend changes in the school functioning to improve school climate and student well-being. The parent group creates a parent handbook describing opportunities for involvement in the school.

In Year 1, two schools in the Yale School Development Program were close to the bottom in the community's reading and mathematics scores. Twelve years later, with no change in the population demographics, the same two schools were third and fourth in the city, scoring above national averages. Truancy and discipline problems also decreased.

Quasi-experimental evaluations of the School Development Program applied to two inner city schools serving low-income, mostly African-American schools showed positive results. At the start of the intervention those two schools were close to the bottom in the community's reading and mathematics scores. Twelve years later, with no change in the population demographics, the two schools were third and fourth in the city, scoring above national averages. Truancy and discipline problems also decreased (Comer, 1988). A follow-up study comparing children in the schools to children in matched schools without the intervention found higher achievement and social competence scores among the intervention students (Cauce, Comer, and Schwartz, 1987).

Middle and High School Programs Providing Normative Drug Education, Social Influence and Resistance Skills, and General Social Competence

Young people in middle and high school are struggling with: critical life decisions about educational and vocational goals and lifestyles; intimate connections outside the family; developing autonomy from the family; and coping with emerging sexuality (Elliot and Feldman, 1990). In all these tasks, the influence of peers is as or more important than the influence of parents. Research has also shown that early first use of substances is strongly associated with later problem use (Kandel, Yamaguchi, and Chen, 1992). So delaying the age of initiation becomes an important prevention target, particularly during the teenage years when substance use becomes most likely.

Therefore, risk interventions directed towards adolescents focus on delaying the early onset of use and problem use by affecting social influences to use drugs, social norms regarding use, and attitudes favorable to use. Two types of interventions with demonstrated promise are: (1) programs which focus on learning about social influences and changing social norms about use and (2) programs which focus on enhancing social competence.

The Adolescent Alcohol Prevention Trial showed that normative education had the greatest effect on reducing drinking, marijuana use and smoking.

The Adolescent Alcohol Prevention Trial (Hansen and Graham, 1991) examined the relative effects of social influence and social norm change strategies in an experimental study in twelve junior high schools. The schools were divided into groups defined by size, test scores, and ethnic composition. Classrooms were randomly chosen to receive one of four types of programs: (1) information about drug use (2) training in skills to resist peer and advertising pressure to use (3) a normative education program and (4) a combination of information, resistance skill training, and normative education. The results indicated that the normative education had the greatest effect on reducing drinking, marijuana use and smoking.

Results from another study suggest that the effectiveness of normative education may be reversed in youth at highest risk.

Other researchers have suggested that establishing clear social norms against use is an important part of substance abuse prevention (Ellickson and Bell, 1990) and several have suggested using peer leaders in teaching (Perry et al., 1989; Botvin et al., 1990). However, young people who are already alienated from their peers and from school, and who have already been exposed to multiple risks, may respond to normative education by increasing their alcohol and other drug use. Specifically, Ellickson and Bell (1990) found that while their curriculum was effective in delaying initiation among those 7th graders who had not yet begun smoking, their curriculum increased tobacco use among those already smoking.

Intervention students in the Positive Youth Development Program had higher teacher ratings of impulse control and conflict resolution than control students. Intervention students reported lower rates of heavy alcohol use than control students, though the two did not differ in self-reported initiation of alcohol, tobacco or marijuana.

Social competence strategies may be more effective with this high-risk group. These programs focus on teaching a broad array of generic life skills, such as social problem-solving, stress reduction, self-regulation, social interaction, and assertiveness (Botvin, 1990). Some of the "psychosocial skill" prevention programs discussed by Emshoff (1996) may represent these approaches.

The Positive Youth Development Program (Caplan and Weissberg et al., 1992) randomly assigned classrooms in one urban and one suburban middle school to a "control" (no intervention) or "intervention" condition. The intervention consisted of 20 sessions, two lessons per week. According to their teachers, the students who received the intervention had better impulse control and conflict resolution than control students. The intervention students themselves reported less intent to use alcohol and lower rates of heavy alcohol use than did the controls, though the two groups did not differ in self-reported initiation of alcohol, tobacco or marijuana.

Several researchers have examined implementation issues around social competence strategies (Botvin et al., 1984; 1990; Botvin and Eng, 1990; Perry et al., 1989). These studies suggest that peer-led programs may be more effective than teacher-led programs and that booster sessions are important for long-term impacts.

Community-Wide Efforts to Reduce Availability or Restrict Access

Increasing drinking ages led to lower alcohol use and fewer alcohol-related crashes.

Manipulating use through legalization, increasing costs or restricting access are not new strategies, but there is some recent evidence which suggests that such measures have both short-term and long-term impacts on use and harm reduction.

Increasing the drinking age to 21 years of age was associated both with lower levels of alcohol use among high school seniors and recent graduates, and with lowered involvement in alcohol-related fatal crashes among drivers under 21 (O'Malley and Wagenaar, 1991). These lower use levels persisted into the early twenties, beyond the legal drinking age.

A study from the 1980s examining the effect of legislation permitting patrons to buy distilled spirits by the drink showed increases in both consumption and the frequency of alcohol-related car accidents (Holder and Blose, 1987).

Community-Wide Efforts with Multiple Components

These community-wide programs focus on involving the entire community and its multiple parts in an interconnected prevention effort. These efforts are really the substance abuse prevention frontier, since the evidence on multiple pathways to abuse suggests that no single risk reduction strategy carried out in isolation can be very effective. Instead, multi-strategy approaches which address multiple risks while enhancing protection hold the most promise.

The partial evaluation of the Midwestern Prevention Program showed that the complete intervention was more effective than media exposure alone in reducing weekly use of cigarettes, alcohol and marijuana after the second year of intervention, and monthly use of cigarettes and marijuana three years after the intervention

An early example is provided by the Midwestern Prevention Program, in which Pentz and her colleagues (1989) tested a curriculum change for students in grades 6 and 7 which also involved homework assignments with parents, booster sessions in the year after the intervention, organizational and training opportunities for parents in positive parent-child communication; training of community leaders to organize drug abuse prevention task forces, and news coverage via articles, television clips, and a press conference. The complete intervention was more effective than media exposure alone in reducing weekly use of cigarettes, alcohol and marijuana after the second year of intervention, and monthly use of cigarettes and marijuana three years after the intervention (Johnson et al., 1990).

Because of its design, the Midwestern Prevention Program cannot answer questions about the relative contribution of the various components. Studies currently underway by Cheryl Perry and her colleagues at the University of Minnesota and Dennis Ary and Tony Biglan at the Oregon Research Institute are also using community mobilization and empowerment models to address substance abuse risks. They are expected to provide important information on the effects of this strategy" (Hawkins, Arthur, and Catalano, 1995, page 405).

Hawkins and Catalano and their colleagues are currently working in collaboration with sixty communities in Washington and Oregon. Their program is designed to mobilize communities to achieve significant self-defined reductions in adolescent health and behavior problems. The mobilization has three phases:

1) Establish an oversight board of key community leaders.
2) Form and train a community prevention board responsible for
    - gathering archival and survey data similar to that presented in this report,
    - prioritizing risk factors for preventive action, and
    - designing a prevention strategy.
3) Implement, monitor and evaluate the prevention strategy, using subsequent years of archival and survey data.

Most Important Points to Remember In Planning Prevention Interventions

The next chapters present the data on risk and protection which have been assembled to assist you in planning substance abuse prevention for your county. As you work to understand and use the data, keep these basic principles of risk and protection-focused prevention in mind:

- **The more risk factors, the greater the risk.** Therefore, prevention efforts must coordinated, and those at highest risk must be an important target for prevention interventions.
- **Risk factors exist in multiple environmental domains.** Therefore, prevention strategies should attempt to take all domains into account.
- **Protective factors buffer exposure to risk.** Therefore, prevention efforts should enhance protection, particularly among those exposed to greatest risk.
- **The relative importance of risk and protective factors varies with age and stage of development.** Therefore, prevention strategies should be designed around the developmental stage of the target population.
- **Common risk factors predict diverse behavior problems.** Therefore, it may be cost-effective to share prevention efforts among agencies.
- **Risk and protective factors operate similarly across different races, cultures and classes.** However, to be effective, prevention programs must be developed in a culturally competent way.

4 UNDERSTANDING AND USING THE INFORMATION COLLECTED

Presentation of Archival Indicator and School Survey Data in this Report

County indicator rates are compared to the indicator rate for a group of similar counties and for the state in Chapters 5, 6, and 7.

In Chapters 5 through 8, archival indicator data and school survey data are presented in a logical sequence of increasing complexity and utility. Actual indicator rates, or school survey measures where no indicator data were available, are presented for each risk factor (Chapter 5) and protective factor (Chapter 6). Actual rates for the additional indicators of substance abuse and other problem behaviors follow (Chapter 7). The bar graphs in these three chapters allow evaluation of each county-level indicator rate against the corresponding rate for a set of similar counties and for the state.

Although information on actual rates provides for interesting analysis indicator by indicator, it does little to help assess the relationship of different indicators to each other or the relationship of a group of indicators to a risk factor. Such relationships are critical to prevention planning, because risk and protective factors are actually the planning targets, rather than individual indicators.

Standardized measures of county indicators and regional school survey measures, which allow the level of one indicator to be compared to the level of another, are provided in Chapter 8.

To facilitate more comprehensive analysis of risk and protective factors, indicator rates and school survey measures have been standardized and are presented graphically (Chapter 8). Standardization transforms different measures to a common scale so that indicators and survey measures may be compared to each other in terms of their relative distance above or below the state rate.

Summary measures for each risk factor which offer a means for comparing levels of risk factors are also provided in Chapter 8.

Standardized measures may also be averaged to form a summary measure for a group of related measures. Thus, a single summary measure was calculated for every risk factor having more than one associated indicator. The risk factor summary measures are presented together at the end of Chapter 8.

In total, this report presents actual and standardized indicator rates or school survey average scores for:

- 53 county-level indicators of risk,
- 4 regional-level school survey measures of risk,
- 7 regional-level school survey measures of protection,
- 10 additional county-level indicators of substance abuse and other problem behaviors, and
- 17 summary measures of risk factor constructs

Where did the Data Come From?

Indicator data in this report are drawn from the CORE-GIS database developed jointly between the Department of Social and Health Services and The Department of Health

Federal support from the Center for Substance Abuse Prevention (CSAP) made possible the collection of county-level risk and protective factor indicators and the production of this report by the Department of Social and Health Services. The data collection effort was also supported by the Youth Violence Reductions Programs Act (ESHB 2319), which charged the Department of Health with providing an assortment of indicators empirically related to eight problem outcomes to the newly organizing Community Public Health and Safety Networks.

Since the CSAP-funded project had already begun collecting data under a similar mandate, the two agencies agreed to jointly develop a comprehensive indicator database for youth problem behaviors, risks and protection. The resulting database is called the Community Risk and Evaluation - Geographic Information System (CORE-GIS). Reports for the networks containing data drawn from the CORE-GIS were completed in 1994 and 1995 (Flewelling, Kohlenberg, and Howards, 1994; Zechmann, Flewelling, and VanEenwyck, 1995).

Data from over thirty separate sources are now included in CORE-GIS (a complete list of indicators, years collected, geographic level and sources may be found in Appendix F.) These data were requested at the finest available geographic level (such as test scores by school district or youth arrests by police jurisdiction) and with demographic breakdowns if possible. Once received, data were transformed into county-level files using GIS software. Where source areas cross county boundaries, the events in question were “apportioned” to each county based upon the geographic and demographic distribution of the population in the area of overlap.

Using Rates for Comparisons

Information about one community is most useful when it can be compared to other communities like itself or to a larger region of which it is a part, such as the state. Comparisons, of course, require the calculation of rates which show the extent of the problem within a population and control for differences in population size.

Rates are calculated by dividing a numerator (the number of events or occurrences) by a denominator (the total population or universe that is relevant to the numerator) and multiplying by a constant. Multiplying by 100 provides a rate per hundred, or percentage. Other multipliers are 1,000 or 100,000, providing rates per 1,000 or 100,000.

Comparing County Rates to Rates for the State and "Counties Like Us"

Three urban and three rural groups of counties were chosen to be "Counties Like Us" so that counties would have a meaningful rate other than the state rate for comparison.

Having controlled for differences in population size by using rates, counties may compare their rates to the rates of other areas. Typically, counties compare themselves to a state rate, even though the state rate is heavily influenced by the large populations of a few large counties - a bias that is important when urban rates differ substantially from rural rates. Because of this limitation, this report provides an additional comparison group for counties, the "Counties Like Us." These county groupings are as follows:

- ***Urban A*.** King County.
- ***Urban B*.** Pierce, Snohomish, and Spokane Counties.
- ***Urban C*.** Benton, Clark, Kitsap, Thurston, Whatcom, and Yakima Counties.
- ***Rural A.*** Ferry, Franklin, Grant, Klickitat, Okanogan, Pend Oreille, and Skamania Counties
- ***Rural B:*** Adams, Asotin, Chelan, Columbia, Douglas, Garfield, Kittitas, Lincoln, Stevens, Walla Walla, and Whitman Counties.
- ***Rural C:*** Clallam, Cowlitz, Grays Harbor, Island, Jefferson, Lewis, Mason, Pacific, San Juan, Skagit, and Wahkiakum Counties.

The county groupings for "Counties Like Us" used county characteristics that were related to the scope of prevention planning. A variety of groupings were examined, but the one finally chosen was based upon three distinguishing county attributes: population of young persons, alcohol- and drug-related deaths as a percent of all deaths, and the geographic Eastern/Western Washington split. Appendix H shows how those groups were determined.

Regions of Analysis for School Survey Results

Regional school survey measures are provided for the four risk factors with no archival indicators and for all seven protective factors. However, such regional estimates generally mask variation in responses at the county level.

Analysis regions in the school survey differ from the groups of counties chosen as "Counties Like Us." Regions for the school survey were designed to have similar student counts for sampling purposes while balancing urbanicity and geographic contiguity. Regional groupings of counties for analysis of school survey include:

- ***Puget Sound*:** King, Kitsap, and Pierce Counties
- ***Northwest*:** Island, San Juan, San Juan, Snohomish, and Whatcom Counties

- ***Southwest*:** Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Skamania, Thurston, and Wahkiakum Counties
- ***Eastern*:** Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima Counties

While measures based on the regional school survey data for protective factors and four risk factor are included in this report, it should be noted that these are not county-specific measures, but average measures across the counties in the region, weighted by county enrollment. Indicator levels may vary substantially across the counties used to create the regional estimates.

Small Numbers and Years of Data Used in Rate Calculations

Indicator rates based upon small numbers of events will result in substantial year to year variation and confound comparisons to other areas.

A primary consideration when developing comparative rates is which year, or years, of data to use in the calculation. A first assumption might be to use only the most recent year of available data since the most recent year would be more likely to reflect the current status of the community. However, the desire for recency must also be balanced with a desire for stable rates.

Indicator rates based upon small numbers of events will result in substantial year to year variation and confound comparisons to other areas. Such instability is more pronounced in smaller counties where the number of indicator events (such as felony drug arrests, adults or adolescents in drug treatment, violent crimes, births to teen mothers, and others) are often small in actual number. Rates among indicators collected for this report appeared reasonably stable when there were at least 30 events recorded in the numerator.

For this report, recency of data and the problem of small numbers are balanced by basing all rates on data from 1990 forward.

For this report, recency of data and the problem of small numbers are balanced by basing all rates on data from 1990 forward. Thus, if data are available from 1990 through 1993, the rate presented is calculated by summing the four annual numerators and dividing by the sum of the four annual denominators. In a few situations, rates are not available or not reliable for smaller counties:

In this report, if there are 30 or fewer events over the years of data used, the rate is considered unstable and is not reported. An 'NR' will appear in place of the rate.

Not Reported: While rates for most indicators can be reported reliably in most counties, there are still some indicators which have fewer than 30 total events over the years of available data for that indicator. Since rates based on so few events are considered unstable, the rate is not reported and 'NR' appears in place of the rate.

Notes of Caution

There are some cautions which should be kept in mind when using these data for planning. They include:

Sometimes, increases in reporting of a problem behavior may be in part due to an enhanced public awareness of a problem.

Changes in Public Awareness of Problem Behavior. Sometimes, increases in reporting of a problem behavior may be in part due to an enhanced public awareness of a problem. For example, after a highly publicized child abuse death in 1986, calls to Child Protective Services increased dramatically for six months, and then dropped to pre-1986 levels. Similarly, a highly publicized domestic murder often leads to increased reports of domestic violence. These increases, however, probably do not signal dramatic changes in the underlying rate of child abuse or domestic violence. Instead, increased reporting probably reflects growing public awareness of these problems and an increased willingness to report them or ask for help.

Supply of services may change while the demand for services stays the same.

Other External Influences on Indicator Levels. Changes in the supply of services when services are in demand may also result in increased rates without actually changing problem levels. For example, in an area of high demand for substance abuse treatment, a new or expanded treatment facility would allow more persons to be served. Although the number of persons served rises, the underlying need for treatment may not have changed.

There are likely to be some errors in our data sources.

Undetected Errors in the Source Data. Large volumes of information are included in the source databases from which these data are drawn. Some errors in these data are to be expected. Errors may include:

- events not reported and therefore not included in the database;
- misclassification or incorrect coding of events; and
- errors incurred in the compilation and processing of the data.

Because this report relies on data collected by others, it is not possible to check and edit the source data. The project staff took steps to minimize the possibility of error in compiling and processing source data and translation to county totals. First, state totals provided by the sources were matched with the state totals from the CORE-GIS database. Second, CORE-GIS county totals were compared to county reports published by the source where possible.

Some police jurisdictions do not report arrest data.

Non-reporting of Arrest Data. The arrest data in this report were obtained from the Washington Association of Sheriffs and Police Chiefs (WASPC), which serves as the reporting agency for the state to the FBI's Uniform Crime Reporting Program. Most, but not all, law enforcement agencies report arrest data to WASPC. The list of non-reporting agencies may change from year to year, and in some instances, agencies have reported only adult arrests or only juvenile arrests. Furthermore, there are some cases in which agencies reported for some but not all months of the year.

Non-reporting of arrest data is significant in some counties.

For most counties, non-reporting agencies only cover a small percentage of the population and, therefore, are not expected to significantly influence the reported arrest rates. However, there are some counties for which, in certain years, non-reporting agencies cover a significant percentage of the county. For these counties, the reported arrest rates probably do not reflect the county as a whole. Appendix I lists the counties where arrest rates are based on less than 80% of the population.

Two additional cautions concerning UCR data should also be kept in mind. Arrests are reported according to the location of the incident rather than the place of residence of the person arrested. Therefore, individuals arrested do not necessarily live within the jurisdiction or even the county in which they were arrested. Counties in which there are a relatively large number of arrests of non-residents may tend to have higher arrest rates, because the rates are based on the resident population. Secondly, the number of arrests for the age groups aged 10-14 and 10-17, by definition, does not include arrests of children under age 10 and therefore will not match exactly with published data on juvenile arrests, which include all juveniles including those under age 10.

The indicator, Average Length of Prison Sentence, cannot be calculated when there are no prison sentencings. NE, for No Events, is displayed when no sentencings occurred.

No Felony Drug Sentencings: If no persons were sentenced for felony drug offenses during a particular year, the numerator, denominator, and rate for the indicator Average Length of Prison Sentence contain "NE" for No Events in the Annual Data Tables (Appendix J). This occurs mostly in smaller counties. The 1990-95 average value is based only on years when there were sentencings for drug offenses.

Guidelines for Interpreting the Data

Understanding and assessing the individual indicators is the first step.

Pattern of Rates: A first interpretive step is to look at all indicators which represent a risk factor to see if there is a pattern of falling above or below the rates for the state or for "Counties Like Us". If all the indicators for a particular risk factor are greater than the state or similar county averages, one could assume that the risk factor has a relatively high level in the county. Likewise, lower than average rates on all risk indicators would suggest that risk levels for that factor are lower in the county.

There are several counties where indicators for a single risk factor may point in different directions. Knowledge of local conditions is necessary to interpret these sorts of findings. For example, in several counties, overall poverty rates are low relative to the state average, but the rate of persons who have exhausted their unemployment benefits relative to all unemployed persons is high. This probably means a generally good job market, but one which contains a concentration of people who lack the skills to find or keep work in that market.

Standardized measures allow comparisons across indicators that are measured in very different ways.

Examine the Standardized Indicators and Factors: For prevention planning, it is often important to compare all the indicators in a county with each other, and determine which rates deviate most from the state measures. Standardized measures (presented in Chapter 8) transform the original absolute rates to a common scale of measure, and allow indicators to be compared readily with each other[1].

The standardized measures used in this report represent the relative deviation from the state rate. For a particular indicator, the county having the highest rate for an indicator will have the highest standardized measure. The value of the standardized measure for a specific county is dependent upon how much the other county rates deviate from the state rate. For example, if most county rates are close to the state rate and a few deviate substantially, the few that deviate will have very large standardized measures and the others rather small. If the variation in county rates around a state rate is more evenly distributed, standardized measures will also be more evenly distributed for that indicator.

[1] Creating a standardized measure involves subtracting an observed rate (a county rate or a "Counties Like Us" rate) from the rate to which it is compared (the state rate) and then dividing that difference by a value that controls for the amount of variation in the indicator. The formula used to standardize indicator values in this report appears below. This formula is similar to the commonly-used z-score. Calculation of a z-score would use the average of all counties rather than the state rate for comparison. It seems more meaningful, however, for counties to be able to compare themselves to the state rate than an average rate where counties of very different size are given equal weight.

$$std_measure = \frac{county_{rate} - state_{rate}}{\sqrt{\frac{\sum_{i=1}^{N}(county_{rate_i} - state_{rate})^2}{N}}}$$, where N = 39 counties.

For the most part, standardized measures in this report range between -2 and 2. Some do extend beyond this range and are labeled as such in the appropriate graphs. The important point is that standardized measures allow indicators measured in very different ways to be compared.

Standardized values of risk indicators also may be averaged to provide a summary measure for the risk factor as a whole. When more than one indicator is present for a risk factor, such a summary measure is created.

Remember That School Surveys are Regional Rates Rather than County Rates: In Washington State, the school survey on drug use and other health-related behaviors is designed only to produce estimates for four regions consisting of combinations of counties. However, because no archival data sources for measuring four of the risk factors or any of the protective factors were identified, we have included in this report some regional-level risk and protective factor measures derived from the 1993-94 school survey. Counties and smaller communities could obtain individually based measures of risk and protection at the local level by encouraging participation of local schools in the biannual school survey.

Think About Comparative versus Absolute Rates: Comparisons to state and "Counties Like Us" are presented together with the county rates in Chapters 5, 6, 7, and 8. These comparisons help to flag indicators rates that are relatively high or low for any given county.

Even if a risk factor is below average, it may still be unacceptably high to county planners.

However, information about your county's relative standing on particular risk and protective factors need not be the only criterion on which needs assessment and planning decisions are made. Another consideration is the absolute level of each risk factor. For example, even if a county's high school dropout rate is below average, it may still be unacceptably high. To the extent that this risk factor is known or believed to be a strong predictor of future drug use and other problem behaviors, and affects a significant number of individuals in a county, it may still be an appropriate target for prevention.

Overview of Graphic Displays of Indicator Data

In Chapter 5, bar graphs of actual, or absolute, rates for risk indicators are grouped by domain and then risk factor. Protective factors are presented in Chapter 6, followed by the additional indicators of problem behavior in Chapter 7. Detailed definitions of each indicator appear beside these bar graphs including reference to their data sources. Sources are listed numerator first, followed by denominator. If only one source is listed, all information was obtained or derived from the same source.

Chapter 8 contains bar graphs of standardized measures of each indicator. A summary measure is also presented for each risk factor having more than one indicator. The last two graphs in this section show all the standardized summary measures together.

5 INDICATOR DATA FOR RISK FACTORS

Pierce County, Counties Like Us[1], and Washington State

Community Domain

Availability of Drugs 5-3
Community Laws and Norms 5-4
Low Neighborhood Attachment & Community Disorganization 5-5
Transitions and Mobility 5-6
Extreme Economic and Social Deprivation 5-8

Family Domain

Family History of High Risk Behavior 5-12
Family Management Problems 5-14
Family Conflict 5-16
Favorable Parental Attitudes and Involvement in Crime & Drugs 5-18

School Domain

Lack of Commitment to School 5-21
Academic Failure 5-22
Early and Persistent Antisocial Behavior[2] 5-24

Individual / Peer Domain

Alienation, Rebelliousness, and Lack of Social Bonding 5-25
Early Initiation of the Problem Behavior 5-26
Friends Who Engage in the Problem Behavior[2] 5-28
Favorable Attitudes Toward the Problem Behavior[2] 5-29
Constitutional Factors[2] 5-30

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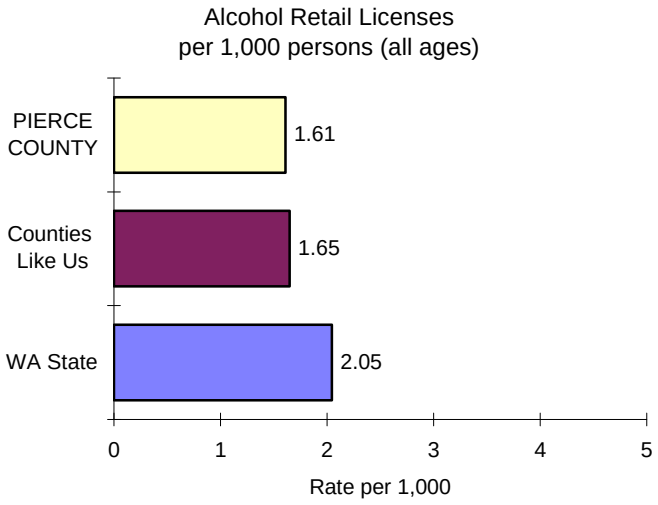
[1] *Pierce, Snohomish, and Spokane Counties*

[2] *Regional school survey data are presented for these risk factors. Pierce County belongs to the Puget Sound school survey region which includes: King, Kitsap, and Pierce Counties*

Risk Factor: Availability of Drugs

The more available drugs are in a community, the higher the risk that young people will abuse drugs. Perceived availability of drugs is also associated with risk. Even when children 'just think' that drugs are available, a higher rate of drug use is often observed (Developmental Research Programs (DRP, 1996).

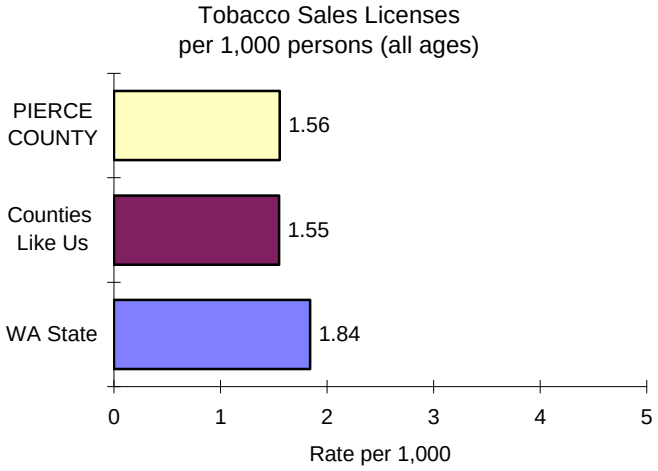
Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates for alcohol retail licenses and of tobacco sales licenses. No archival data source for illicit drug availabilty was located. Higher rates for these indicators likely reflect higher levels of availability for these substances in the community.



The **Alcohol Retail Licenses** indicator is the number of active alcohol retail licenses per 1,000 persons (all ages). The numerator includes all licenses that are active during a single year.

Retail licenses include all places that sell alcohol (such as restaurants, grocery stores, and wine shops) except liquor stores and agencies. Both on and off premise licenses are counted.

Graph values are averages for 1990 to 1994. Sources: 14, 08.



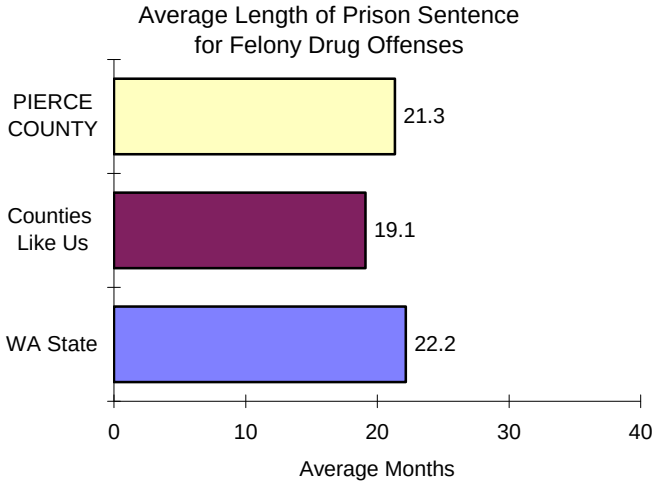
The **Tobacco Sales Licenses** indicator is the number of tobacco sales licenses current in the month of November per 1,000 persons (all ages). Tobacco sales licenses include tobacco retailer licenses (stores that sell tobacco products) and tobacco vending machines.

Graph values are averages for 1993 to 1995. Sources: 05, 08.

Risk Factor: Community Laws & Norms Favorable to Crime and Drugs

Attitudes and policies a community holds about drug use are communicated in a variety of ways: through the laws and written policies, informal social practices, and through the expectations parents and other members of the community have of young people (DRP, 1996).

The average length of prison sentence for felony drug offenders was chosen as a proxy measure for community norms where the longer (or stricter) the average sentence, the stronger the community norms against drug use.



The **Average Length of Prison Sentence for Drug Offenses** indicator is the total number of months of all sentences for felony drug crimes divided by the total number of adults (ages 18 and over) who were convicted of felony drug crimes. Drug crimes are defined in the Revised Code of Washington.

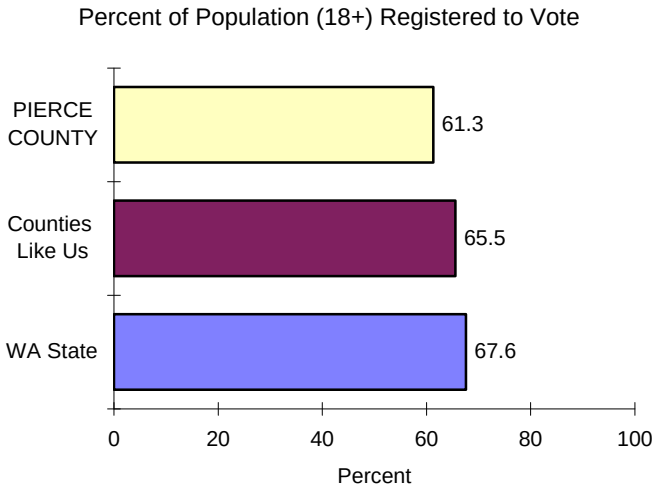
The data are based on the county of conviction. The year is the year that the person was sentenced not necessarily the year when the crime was committed.

Graph values are averages for 1990 to 1995. Source: 22.

Risk Factor: Low Neighborhood Attachment & Community Disorganization

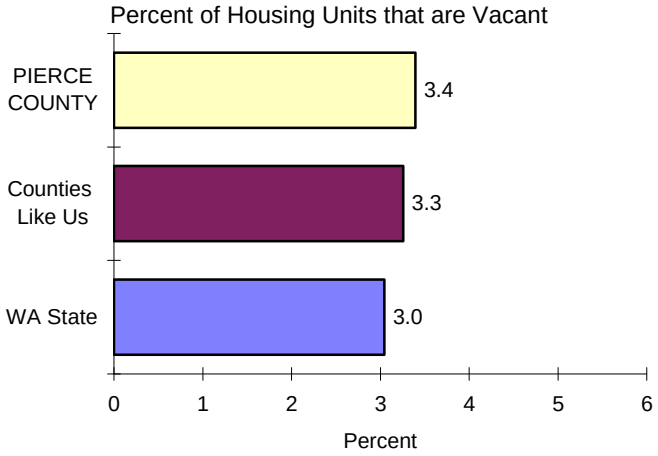
Higher rates of drug problems occur in communities or neighborhoods where people have little attachment to the community. The challenge of creating neighborhood attachment is whether residents feel they can make a difference in their own lives. If the key players in a neighborhood, such as merchants, teachers, police, or human and social services personnel, live outside the neighborhood, residents' sense of commitment will be less. These conditions are not limited to low-income neighborhoods; they can also be found in wealthier neighborhoods (DRP, 1996).

Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates of registered voters and residential vacancies. Higher rates for these indicators likely reflect a lower attachment to the community.



The **Population Registered to Vote** indicator is the number of persons who are registered to vote in the November elections as a percentage of adults (ages 18 and over).

Graph values are averages for 1990 to 1993. Sources: 21, 08.



The **Residential Vacancies** indicator is the number of vacant housing units as a percentage of all housing units.

Housing units include homeowner-owned housing units and rental housing units.

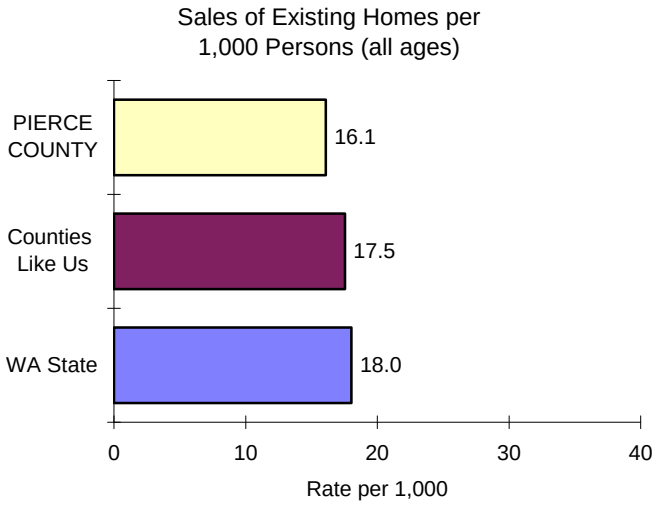
Graph values are for 1990. Source: 26.

Risk Factor: Transitions and Mobility

Communities with higher rates of mobility also appear to be linked to an increased risk of drug use. The more often people in a community move, the greater the risk of drug-related problems in families. High rates of transition and mobility may also impede neighborhood attachment and community organization (DRP, 1996).

While some people find buffers against the negative effects of mobility by making connections in new communities, others are less likely to have the resources to deal with the effects of frequent moves, and are more likely to have problems.

Proxy measures for this risk factor are presented in the graphs below and include rates of existing home sales, residential building permits, households in rental properties, persons moving within a county during the last five years, and persons moving from outside the county during the last five years. Higher rates for these indicators suggest increased transitions beyond those normally encountered by young people in school and also reflect increased levels of mobility within the community.



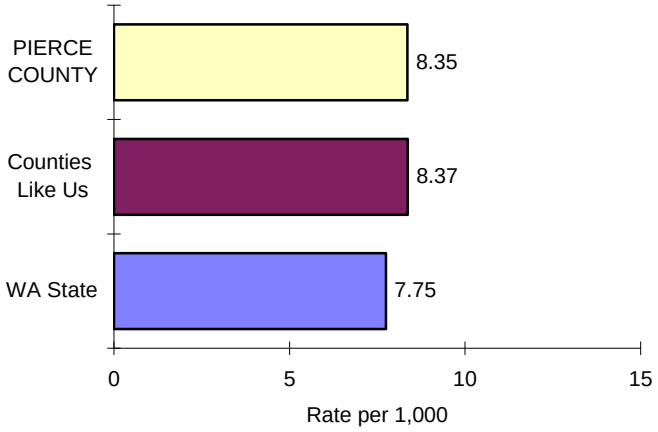
The **Existing Home Sales** indicator is the number of previously-owned homes sold per 1,000 persons (all ages). The numerator in this rate is rounded to the tens.

Existing homes sold are estimated based on data from multiple listing services, firms that monitor deeds, and local realtors associations.

Graph values are averages for 1990 to 1994. Sources: 29, 08.

Risk Factor: Transitions and Mobility

Residential Building Permits Issued
per 1,000 Persons (all ages)

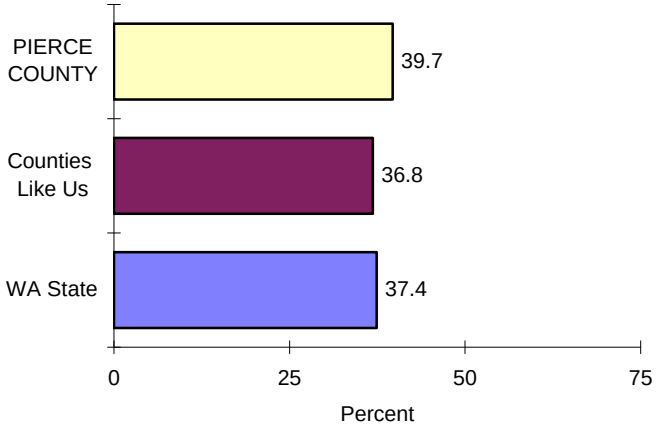


The **Residential Building Permits** indicator is the number of building permits for single and multi-family dwellings per 1,000 persons (all ages).

Each unit in a multi-family dwelling (for example, each apartment in a building) has a separate building permit.

Graph values are averages for 1990 to 1993. Sources: 29, 08.

Percent of Households in Rental Properties

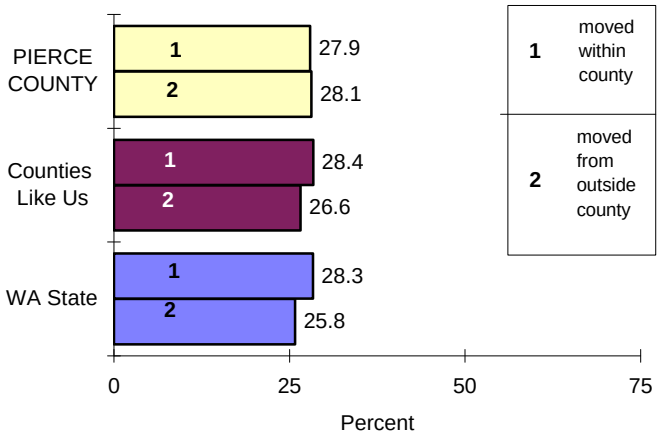


The **Households in Rental Properties** indicator is the number of rental households as a percentage of all households.

For this indicator, a household is defined as an occupied residential housing unit.

Graph values are for 1990. Source: 26.

Percent of Persons Moving Within and
From Outside the County, between 1985 and 1990



The **Moved Within County During Last 5 Years** indicator is the number of persons (ages 5 and over) who moved within the county between 1985 and 1990 as a percentage of all persons (ages 5 and over).

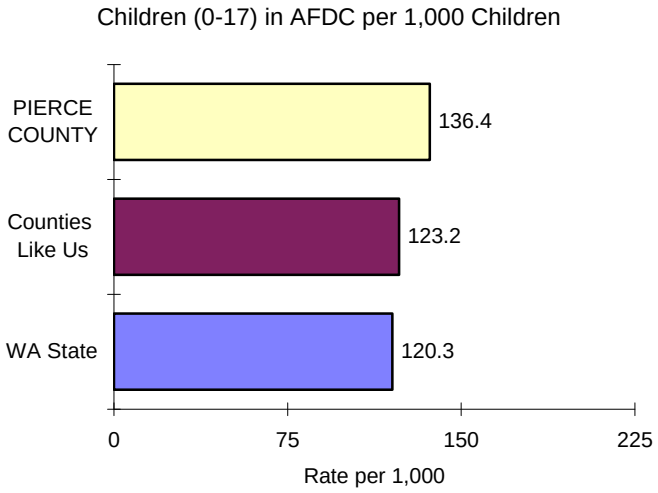
The **Moved From Outside County During Last 5 Years** indicator is the number of persons (ages 5 and over) who moved from outside the county between 1985 and 1990 as a percentage of all persons (ages 5 and over). Moving from outside the county includes moving from a different county, state, or country.

Graph values are for 1990. Source: 27.

Risk Factor: Extreme Economic and Social Deprivation

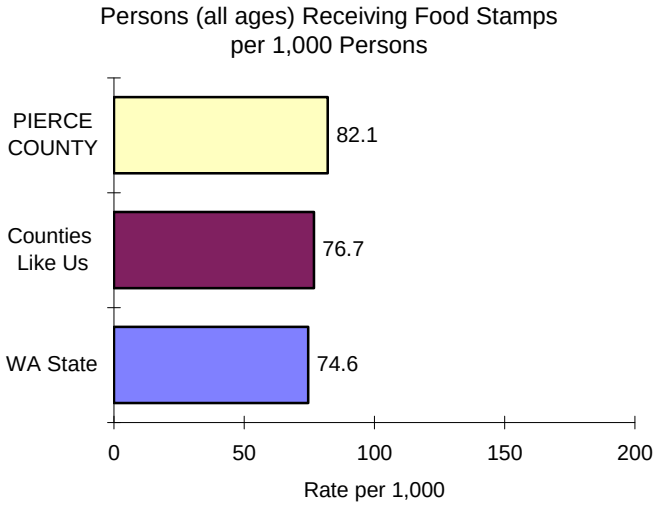
Children who live in a poor, deteriorating neighborhood where the community perceives little hope for the future are more likely to develop problems with drug use. Children who live in these areas - and have behavior adjustment problems early in life - are also more likely have problems with drugs later on (DRP, 1996).

Proxy measures for this risk factor are presented in the graphs below and include a collection of indicators based on poverty status, unemployment status, aid programs for low income families, and other data associated with deprivation. Higher rates for these indicators indicate higher levels of economic and social deprivation.



The **Children in Aid to Families with Dependent Children (AFDC)** indicator is the number of children (ages 0-17) participating in AFDC programs in the month of April as a rate per 1,000 children (ages 0-17).

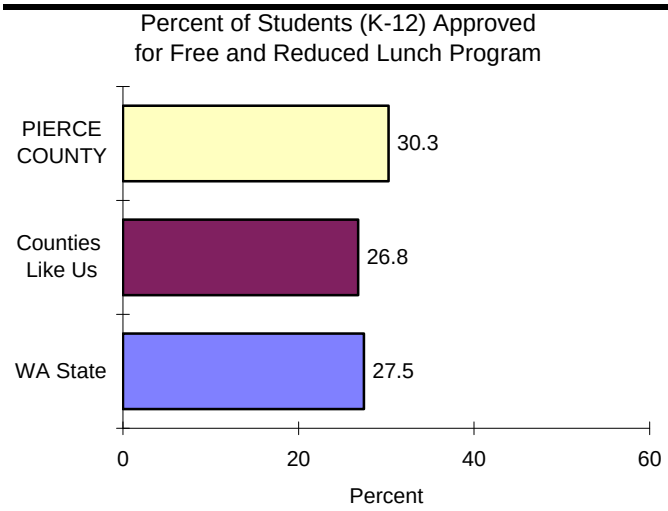
Graph values the averages for 1990 to 1994. Sources: 11, 08.



The **Food Stamp Recipients** indicator is the number of persons (all ages) receiving food stamps as a rate per 1,000 persons (all ages).

Graph values are the averages of 1990 to 1994. Sources: 11, 08.

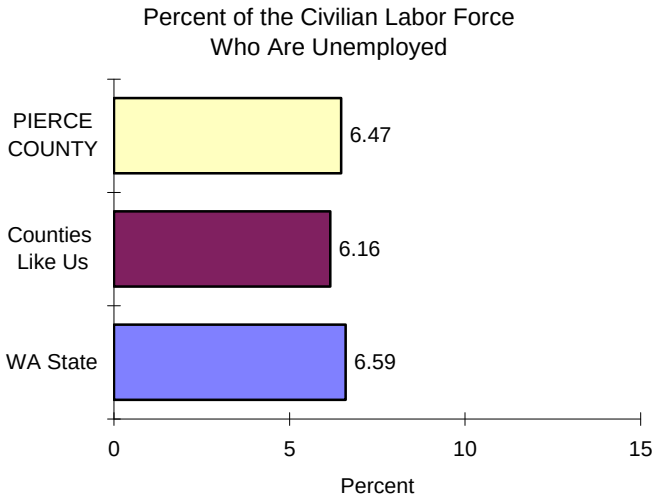
Risk Factor: Extreme Economic and Social Deprivation



The **Free and Reduced Lunch Program** indicator is the number of students in public schools (K-12) whose applications have been approved for free and reduced lunch programs as a percentage of all students enrolled in public schools (K-12).

Children are eligible for free lunches if their family income is at or below 130% of the federal poverty level or for reduced price lunches if their family income is at or below 185% of the federal poverty level.

Graph values are averages 1990 to 1995. Sources: 16, 17.

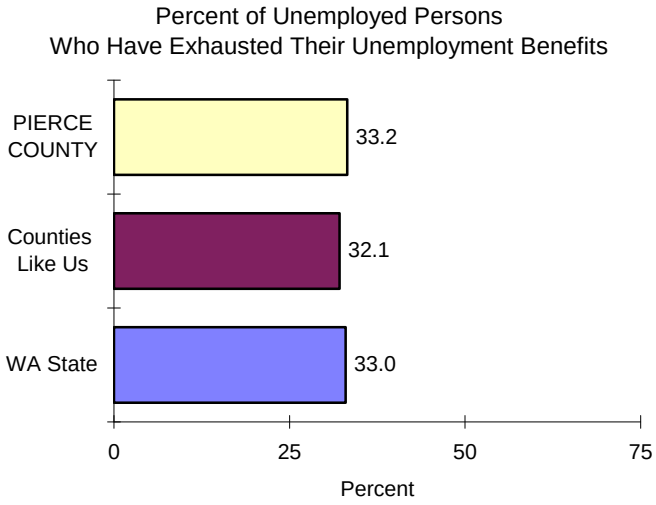


The **Unemployment** indicator is the number of unemployed persons (ages 16 and over) as a percentage of the civilian labor force.

Unemployed persons are individuals (ages 16 and over) who have actively looked for work, are currently available for work, and do not have a job.

The civilian labor force includes persons (ages 16 and over) who are working or looking for work.

Graph values are averages for 1990 to 1993. Source: 13.

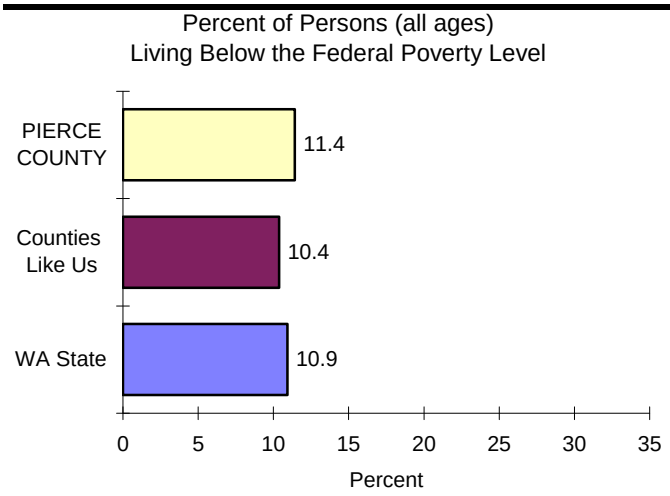


The **Exhausted Unemployment Benefits** indicator is the number of persons (ages 16 and over) who have exhausted their regular unemployment benefits as a percentage of the total number of unemployed persons

Unemployed persons are individuals (16 and over) who have actively looked for work, are currently available for work, and do not have a job.

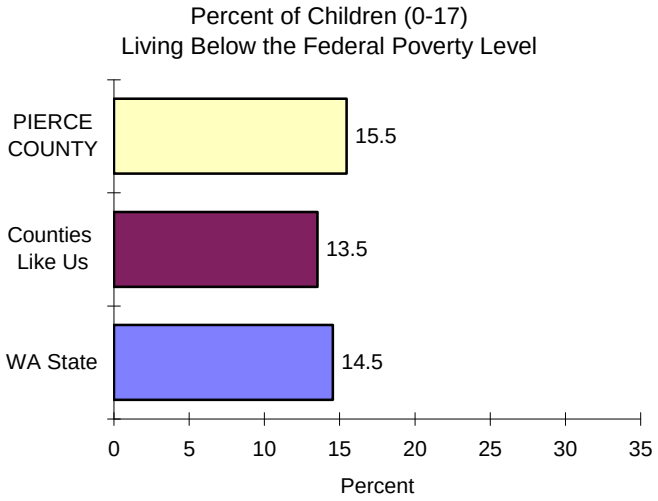
Graph values are averages for 1992 to 1993. Sources: 12, 13.

Risk Factor: Extreme Economic and Social Deprivation



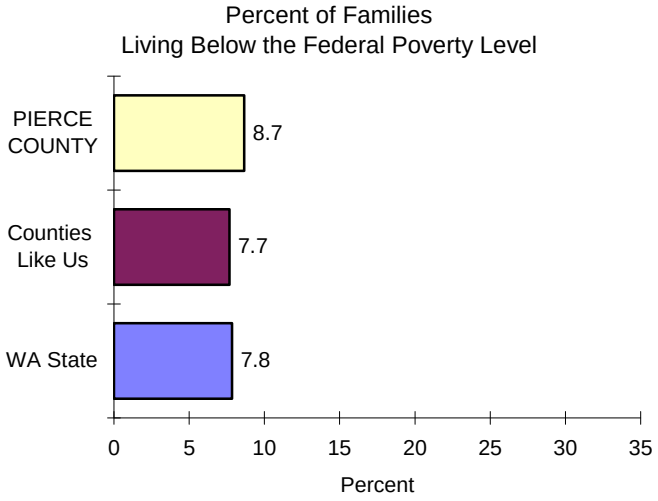
The **Persons Living Below the Poverty Level** indicator is the number of persons (all ages) whose 1989 income was below the federal poverty level as a percentage of all persons.

Graph values are for 1990. Source: 27.



The **Children Living Below the Poverty Level** indicator is the number of children (ages 0-17) whose 1989 income was below the federal poverty level as a percentage of all children (ages 0-17).

Graph values are for 1990. Source: 27.

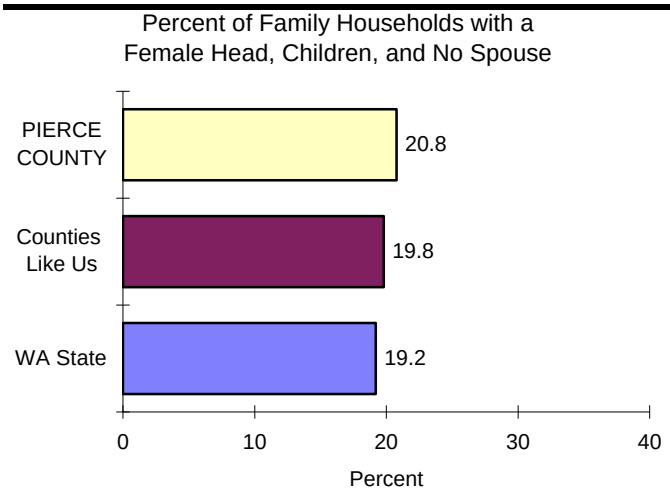


The **Families Living Below the Poverty Level** indicator is the number of families whose 1989 income was below the federal poverty level as a percentage of all families.

For this indicator, a family consists of at least two related persons (one of whom is the head of household) living in the same house. They may be related by marriage, birth, or adoption.

Graph values are for 1990. Source: 27.

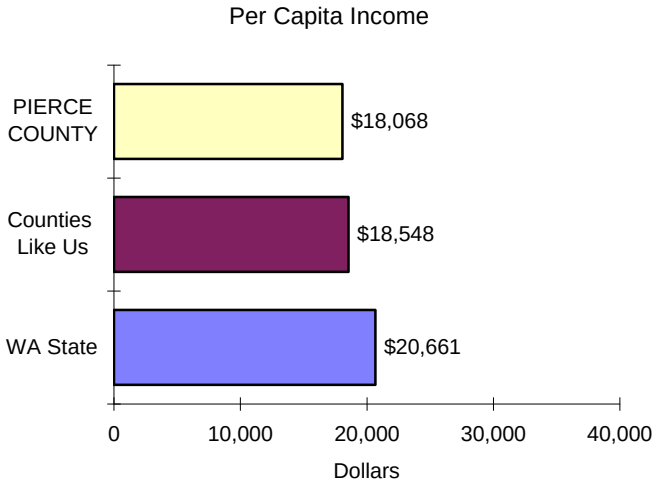
Risk Factor: Extreme Economic and Social Deprivation



The **Female Headed Family Households** indicator is the number of female headed households with children (ages 0-17) and no spouse present as a percentage of all family households with children (ages 0-17).

For this indicator, a family consists of at least two related people (one of whom is the head of household) living in the same house. They may be related by birth or adoption.

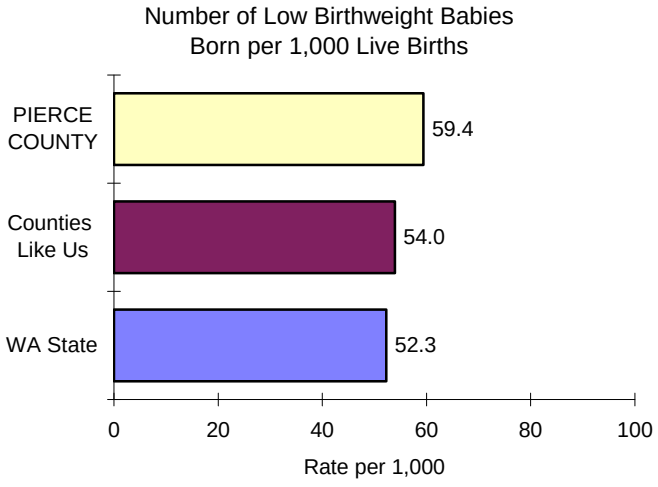
Graph values are for 1990. Source: 26.



The **Per Capita Income** indicator is the average per capita income rounded to the nearest dollar.

Per capita income is total personal income divided by the total population.

Graph values are averages for 1990 to 1993. Source: 25.



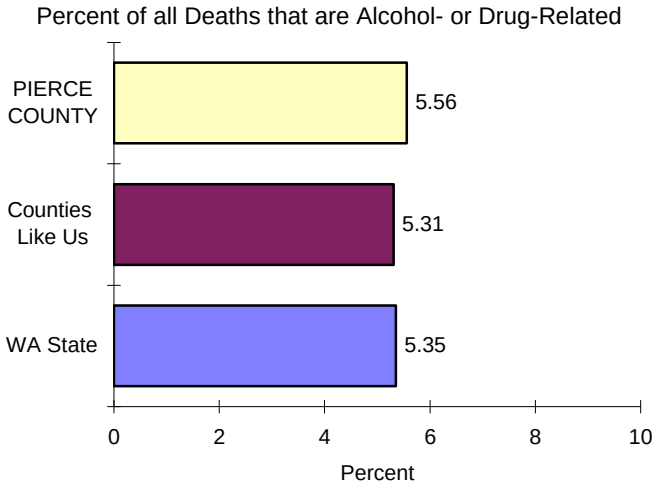
The **Low Birthweight Babies Born** indicator is the number of babies born with low birthweight as a rate per 1,000 live births. Low birthweight is less than 2,500 grams.

Graph values are averages for 1990 to 1994. Source: 02.

Risk Factor: Family History of High Risk Behavior

If children are raised in a family with a chronic history of addiction to alcohol or other drugs or a history of recurring criminal behavior, their own risk of having alcohol and or other drug problems increases (DRP, 1996).

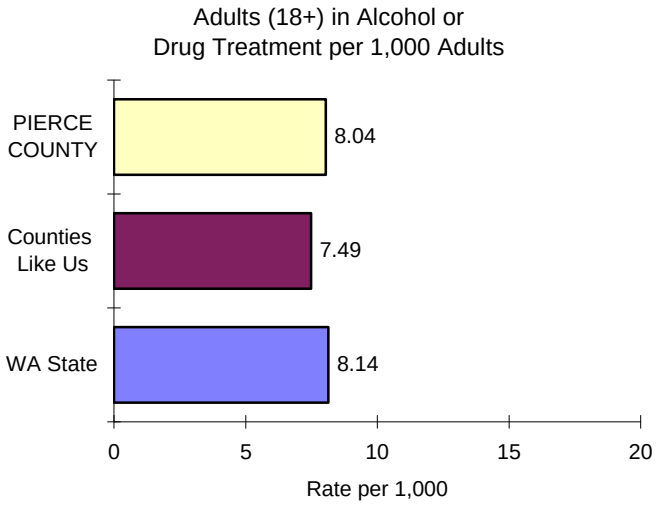
Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates of deaths due to alcohol or drugs, adults in alcohol or drug treatment, low adult education, and prisoners in local and state correctional systems. Since data specific to parents were not available, rates for adults are provided and are assumed similar to rates for parents. Higher rates of these indicators suggest higher levels of long-lasting or chronic high risk behavior.



The **Alcohol- and Other Drug-related Deaths** indicator is the number of deaths that are attributed to alcohol or other drugs as a percentage of all deaths.

Deaths attributed to alcohol and other drugs include deaths that are directly or indirectly related to alcohol or drug use. The cause of death is based information from death certificate. (See Appendix B)

Graph values are averages for 1990 to 1994. Source: 02.

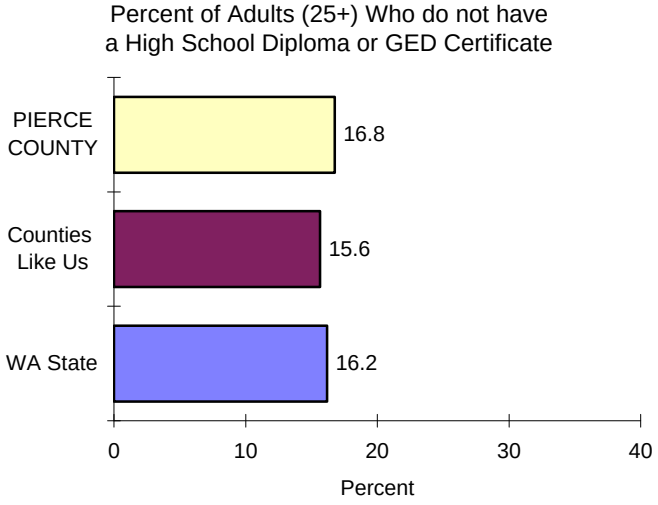


The **Adults in Alcohol- and Other Drug (AOD) Treatment Programs** indicator is the number of adults (ages 18 and over) admitted to state funded AOD treatment programs per 1,000 adults.

Adults admitted to treatment more than once during the year were only counted once for that year.

Graph values are averages for 1991 to 1995. Sources: 07, 08.

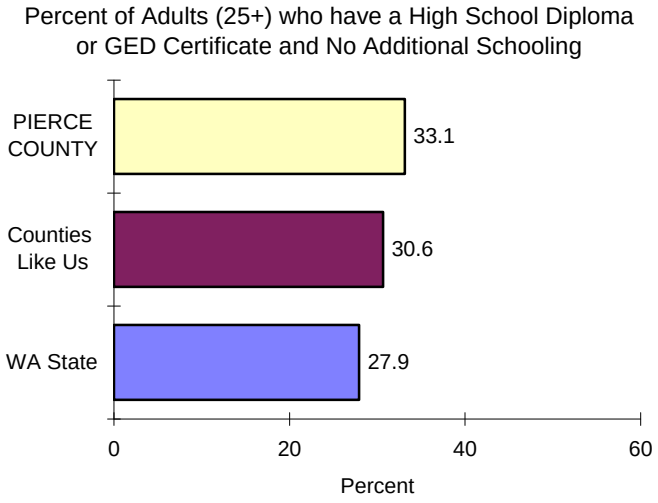
Risk Factor: Family History of High Risk Behavior



The **Educational Attainment - Less than High School Graduate** indicator is the number of adults (ages 25 and over) who do not have a high school diploma as a percentage of all adults (ages 25 and over).

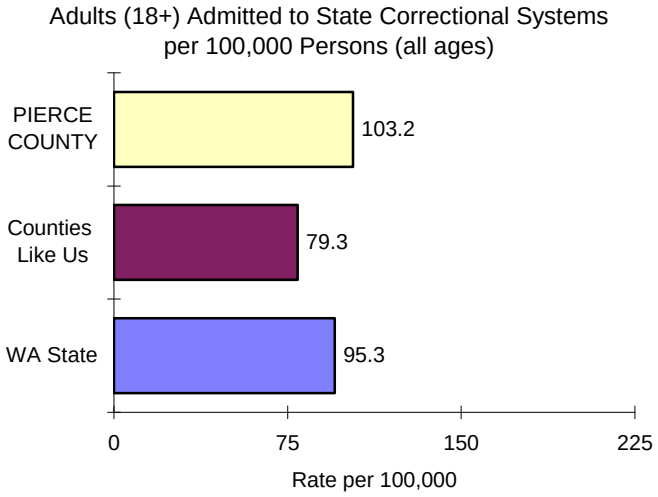
The individuals may not have attended high school or they may have attended high school but never graduated. Individuals who received their GED certificate are not counted in this indicator.

Graph values are for 1990. Source: 27.



The **Educational Attainment - High School Graduate Only** indicator is the number of adults (ages 25 and over) who have completed high school or have received their GED certificate and who have not received additional schooling as a percentage of all adults (ages 25 and over).

Graph values are for 1990. Source: 27.



The **Prisoners in State Correctional Systems** indicator is the number of adult (ages 18 and over) admissions to prison as a rate per 100,000 persons (all ages).

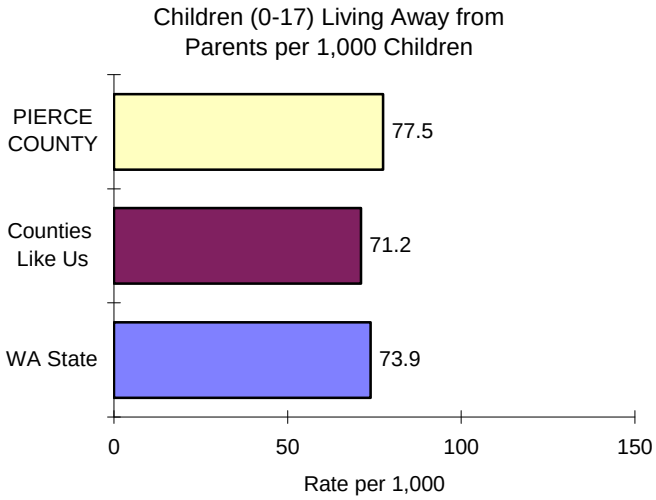
Admissions include new admissions, readmissions, community custody inmate violations, and parole violations. Individuals admitted to prison more than once in a year are counted each time they are admitted. The admissions are attributed to the county where the conviction occurred.

Graph values are averages for 1990 to 1994. Sources: 01, 08.

Risk Factor: Family Management Problems

Poor family management practices include lack of clear expectations for behavior, failure of parents to monitor their children (knowing where they are and who they're with), and excessively severe or inconsistent punishment. Such practices place children at higher risk for drug use (DRP, 1996).

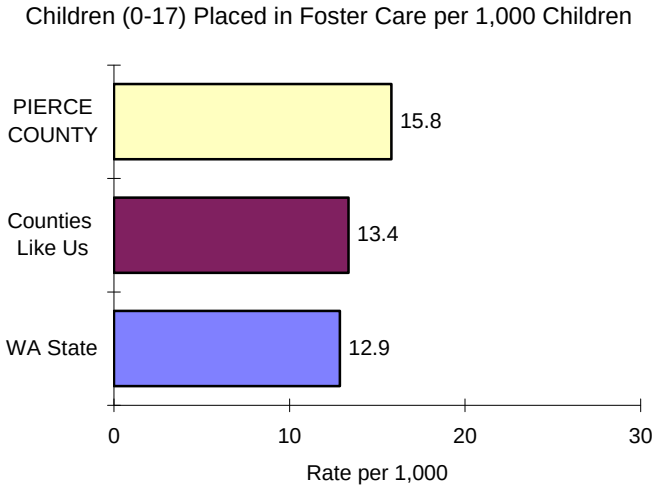
Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates of children not living with their parents, children in foster care, and victims in both reported and accepted referrals for child abuse and neglect. Higher rates of these indicators point toward a greater frequency of family management problems.



The **Children Living Away from Parents** indicator is the number of children (ages 0-17) who do not live with either or both of their parents or guardians as a rate per 1,000 children.

The children may be householders, married, living with relatives other than their parents, living with people who are not relatives, or living in group quarters (detention facilities, group homes, college dormitories).

Graph values are for 1990. Source: 26.



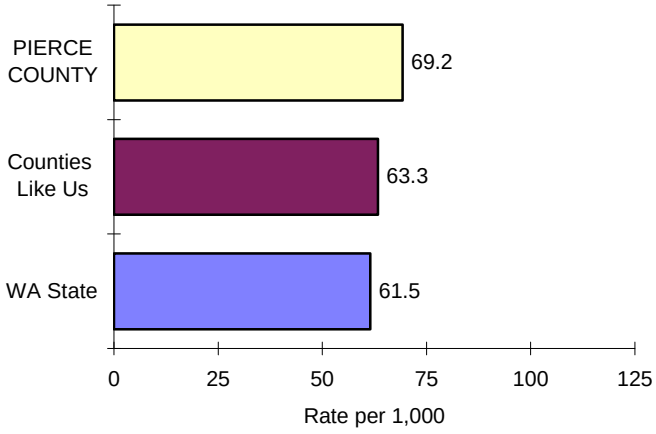
The **Children Placed in Foster Care** indicator is the number of children (ages 0-17) who were living with or placed with a foster family as a rate per 1,000 children. The numerator includes short-term crisis placements and longer-term placements. Some family placements with relatives are included as well.

Children placed in foster care more than once during the year were only counted once for that year.

Graph values are the averages of 1991 to 1994. Sources: 09, 08.

Risk Factor: Family Management Problems

Victims (0-17) in Accepted and Unaccepted Child Abuse and Neglect Referrals per 1,000 Children (0-17)

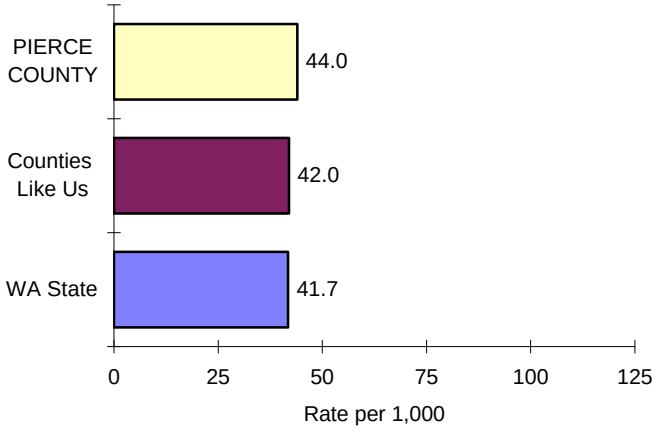


The **Victims in Reported Child Abuse and Neglect Referrals** indicator is the number of children (ages 0-17) identified as victims in accepted and unaccepted referrals to Child Protective Services as a rate per 1,000 children. Children are counted more than once if they are reported more than once during the year.

Referrals are accepted if there is enough information for Child Protective Services to investigate. If there is not enough information or the alleged abuser is a "third party," not the parent or guardian, the case is not accepted. "Third party" cases are referred to the appropriate law enforcement agency instead.

Graph values are averages for 1991 to 1995. Sources: 06, 08.

Victims (0-17) in Accepted Child Abuse and Neglect Referrals per 1,000 Children (0-17)



The **Victims in Accepted Child Abuse and Neglect Referrals** indicator is the number of children (ages 0-17) identified as victims in accepted referrals to Child Protective Services as a rate per 1,000 children. Children are counted more than once if they are reported more than once during the year.

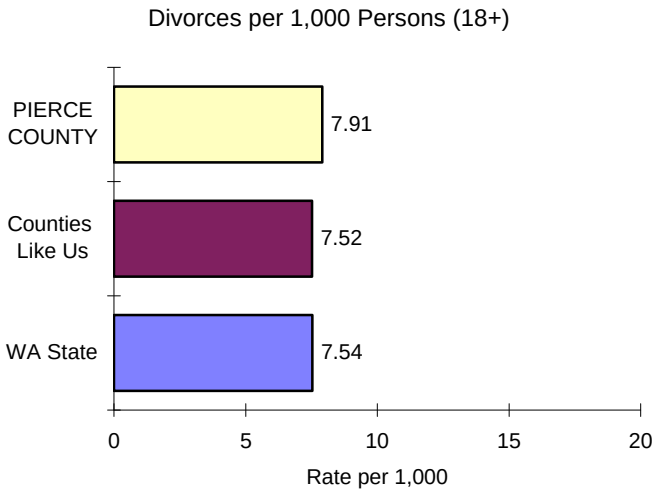
Referrals are accepted if there is enough information for Child Protective Services to investigate. If there is not enough information or the alleged abuser is a "third party," not the parent or guardian, the case is not accepted. "Third party" cases are referred to the appropriate law enforcement agency instead.

Graph values are averages for 1991 to 1995. Sources: 06, 08.

Risk Factor: Family Conflict

Persistent serious conflict between primary caregivers or between caregivers and children appears to increase risk for children raised in these families. Conflict between family members appears to be more important than the family structure. Whether the family is headed by two biological parents, a single parent, or some other primary caregiver, children raised in families high in conflict appear to be at risk for all problem behaviors (DRP, 1996).

Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates of divorce, single parent households, and arrests for domestic violence. Since data specific to parents was not available, rates for adults are provided and are assumed similar to rates for parents. Elevated rates for these indicators are probable markers of increased family conflict.

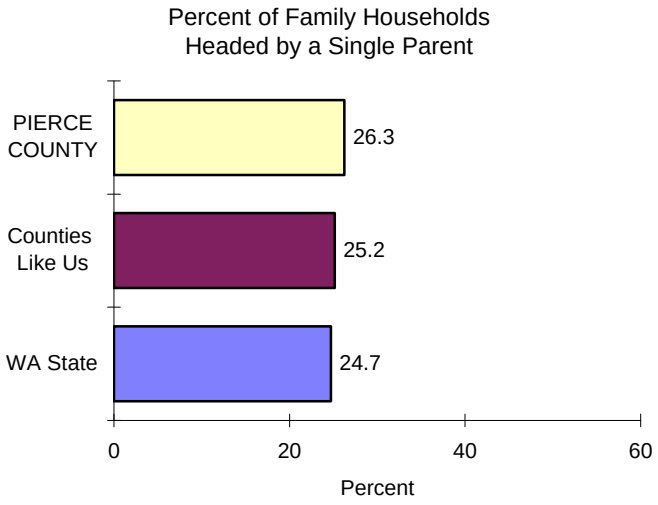


The **Divorce** indicator is the number of divorces as a rate per 1,000 adults (ages 18 and over). For this indicator, divorce includes dissolutions, annulments, and unknown decree types; it does not include legal separations.

Divorce data is collected by the county where the decree is issued, not necessarily where the couple lives. Lincoln County has an extremely high divorce rate because no court appearance is required for amicable divorces. The convenience attracts many "absentee" divorces from elsewhere in Washington.

Graph values are averages for 1991 to 1995. Sources: 02, 08.

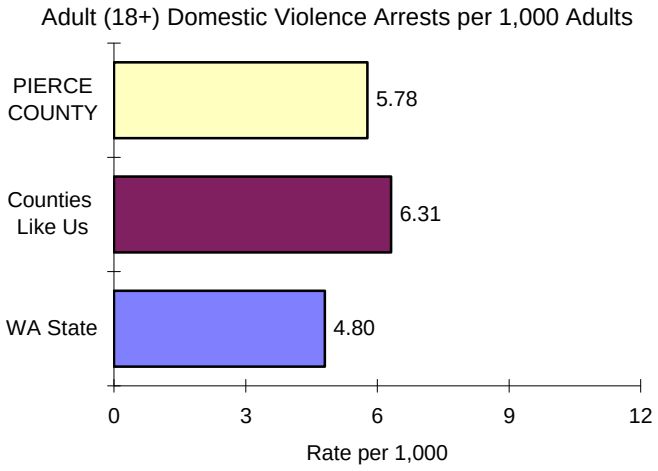
Risk Factor: Family Conflict



The **Single Parent Family Households** indicator is the number of family households headed by a single parent with children (ages 0-17) as a percentage of all family households with children (ages 0-17). A single parent can be a female with no husband or a male with no wife.

For this indicator, a family consists of at least two related people (one of whom is the head of household) living in the same house. They may be related by birth or adoption.

Graph values are for 1990. Source: 26.



The **Domestic Violence Arrests** indicator is the number of domestic violence-related arrests of adults (ages 18 and over) for felonies and gross misdemeanors as a rate per 1,000 adults. Arrests where the crime class is unknown are included in this rate because it is likely that the crimes were gross misdemeanors. Arrests for misdemeanors are not included, because it is not mandatory to report misdemeanors to the State Patrol.

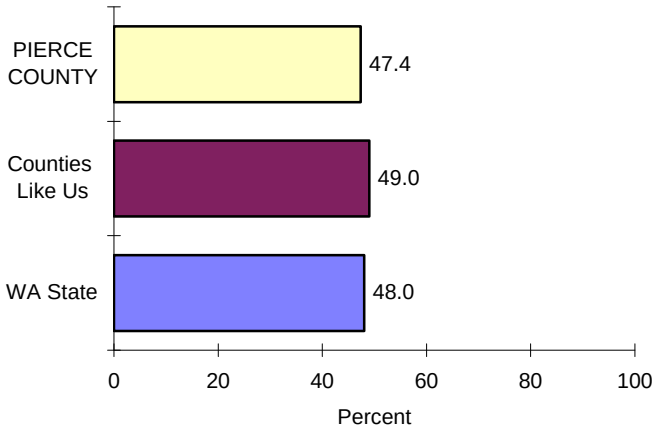
Graph values are averages for 1990 to 1994. Sources: 23, 08.

Risk Factor: Favorable Parental Attitudes and Involvement in Crime and Drugs

Current and ongoing parental attitudes and behavior toward drugs and crime influence the attitudes and behavior of their children. Parental involvement in drug use and crime may convey the message that those behaviors are tolerated or even accepted. Parental approval of young people's moderate drinking, even under parental supervision, increases the risk of young persons using marijuana. Further, in families where parents involve children in their own drug or alcohol behavior for example, asking the child to light the parent's cigarette or get the parent a beer from the refrigerator - there is an increased risk that a child will become a drug abuser in adolescence. Parents who tolerate or excuse a young person's criminal activity also encourage substance use (DRP, 1996).

Indicators chosen as proxy measures for this risk factor are presented in the graphs below and include rates of adult alcohol or drug related arrests, adult arrests for various other types of crime, alcohol-related traffic fatalities, and drug use during pregnancy. Since data specific to parents was not available, rates for adults are provided and are assumed similar to rates for parents. Higher rates for these indicators suggest greater parental tolerance of problem behaviors and increased parental involvement in drugs or crime.

Percent of Traffic Fatalities that are Alcohol-related



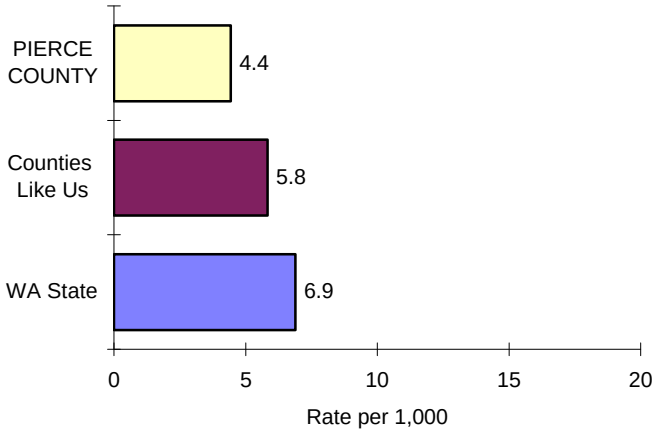
The **Alcohol-related Traffic Fatalities** indicator is the number of "alcohol-related" traffic fatalities as a percentage of all traffic fatalities.

"Alcohol-related" means that the officer on the scene determined that at least one driver or pedestrian involved in the accident "had been drinking." Thus, "Alcohol-related" includes but is not limited to the legal definition of driving under the influence.

Graph values are averages for 1990 to 1994. Source: 24.

Risk Factor: Favorable Parental Attitudes and Involvement in Crime and Drugs

Adult (18+) Arrests for Drunken Driving per 1,000 Adults

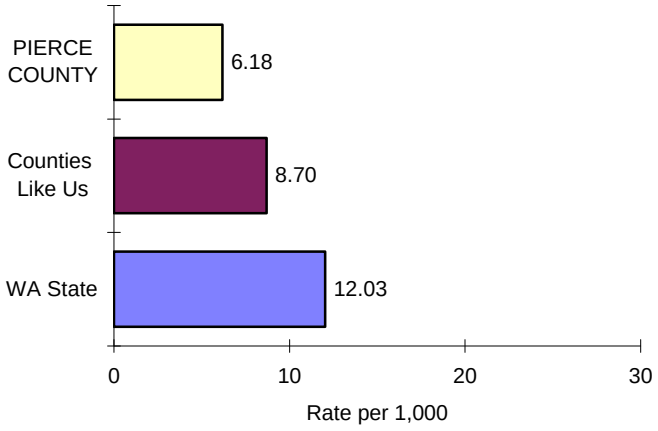


The **Adult Drunken Driving Arrests** indicator is the number of adults (ages 18 and over) arrested for driving under the influence (DUI) as a rate per 1,000 adults.

DUI arrests by the Washington State Patrol (70% of all Adult Drunken Driving Arrests) are not included since they are not assigned to counties.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Adult (18+) Alcohol-related Arrests per 1,000 Adults

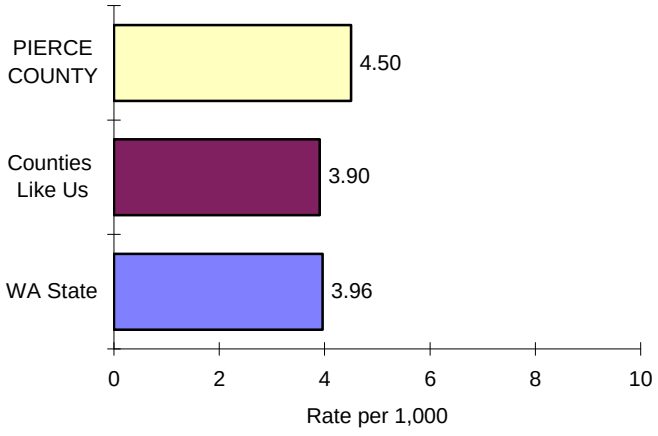


The **Adult Alcohol-related Arrests** indicator is the number of adult (ages 18 and over) arrests for alcohol violations as a rate per 1,000 adults.

Alcohol violations include all crimes involving driving under the influence, liquor law violations, and drunkenness. DUI arrests by the Washington State Patrol (41% of all Adult Alcohol-related Arrests) are not included since they are not assigned to counties.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Adult (18+) Drug-related Arrests per 1,000 Adults



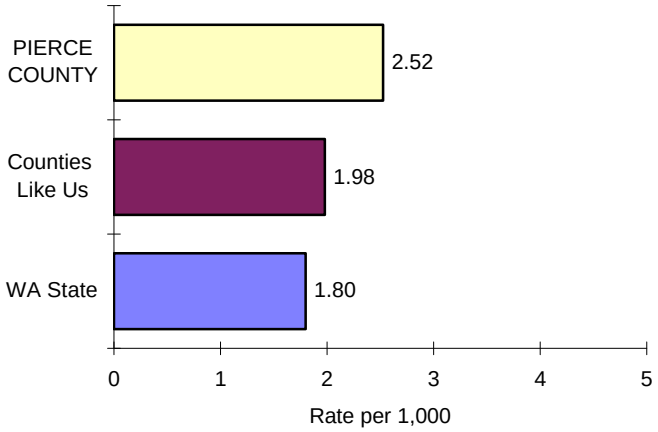
The **Adult Drug-related Arrests** indicator is the number of adult (ages 18 and over) arrests for drug law violations as a rate per 1,000 adults.

Drug law violations include all crimes involving sale, manufacturing, and possession of drugs.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Risk Factor: Favorable Parental Attitudes and Involvement in Substance Use

Adult (18+) Violent Crime Arrests per 1,000 Adults

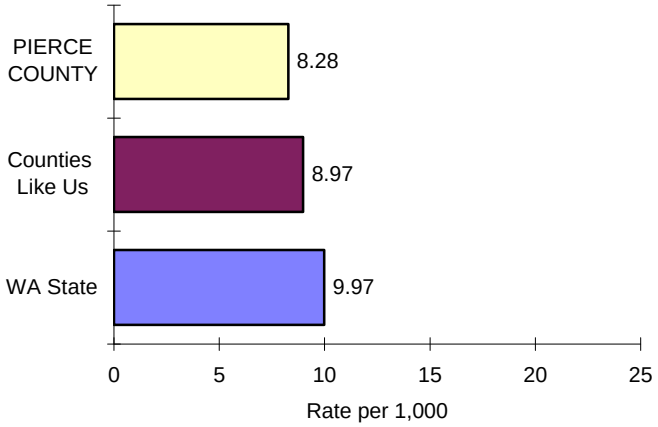


The **Adult Violent Crime Arrests** indicator is the number of adults (ages 18 and over) arrested for violent crimes as a rate per 1,000 adults.

Violent crimes include all crimes involving criminal homicide, forcible rape, robbery, and aggravated assault. Simple assault is not defined as a violent crime.

Graph values are averages 1990 to 1993. Sources: 28, 08, 10.

Adult (18+) Property Crime Arrests per 1,000 Adults

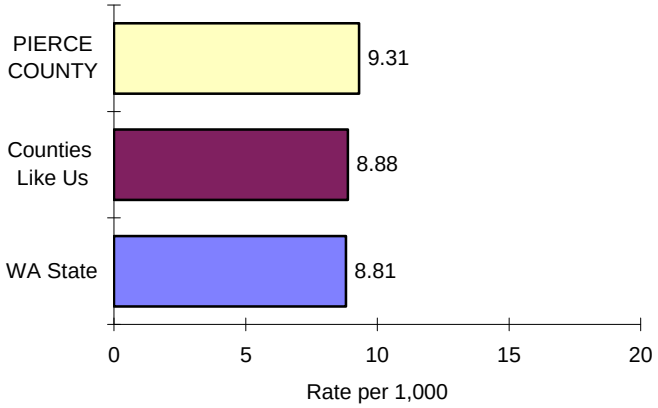


The **Adult Property Crime Arrests** indicator is the number of adult (ages 18 and over) arrested for property crimes as a rate per 1,000 adults.

Property crimes include all crimes involving burglary, larceny-theft, motor vehicle theft, and arson.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Pregnant Women (all ages) Admitted to State Funded Alcohol or Drug Treatment per 1,000 Babies Born



The **Drug Treatment During Pregnancy** indicator is the number of pregnant women (all ages) admitted to state funded alcohol and other drug treatment programs per 1,000 babies born. If a pregnant woman is admitted to treatment more than once in a year, she is only counted once.

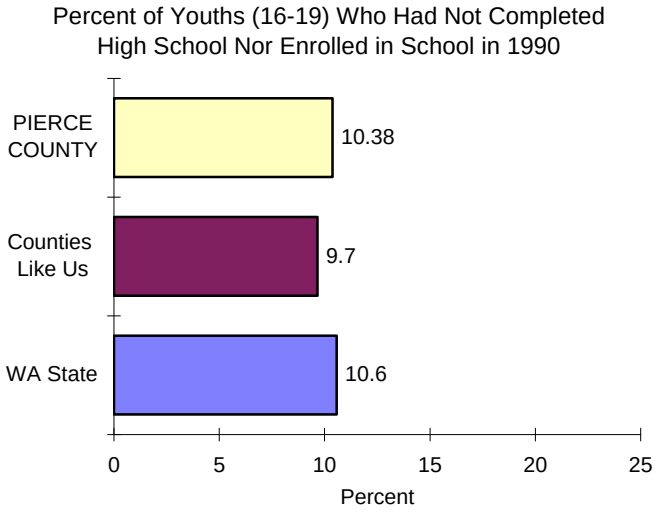
This indicator undercounts drug use during pregnancy because it does not include women who use drugs but are not in treatment or women who are in private treatment programs.

Graph values are averages for 1991 to 1994. Sources: 07, 02.

Risk Factor: Lack of Commitment to School

Low commitment to school means the young person has ceased to see the role of student as a viable one. Young people who have lost this commitment to school are at higher risk for drug use (DRP, 1996).

A proxy measure for this risk factor is the high school dropout rate for 16 to 19 year-olds. A higher dropout rate suggests a lower level of commitment to school.



The **High School Dropouts, Age 16-19** indicator is the number of persons (ages 16-19) who had not completed high school and were not enrolled in school in 1990 as a percentage of all persons (ages 16-19).

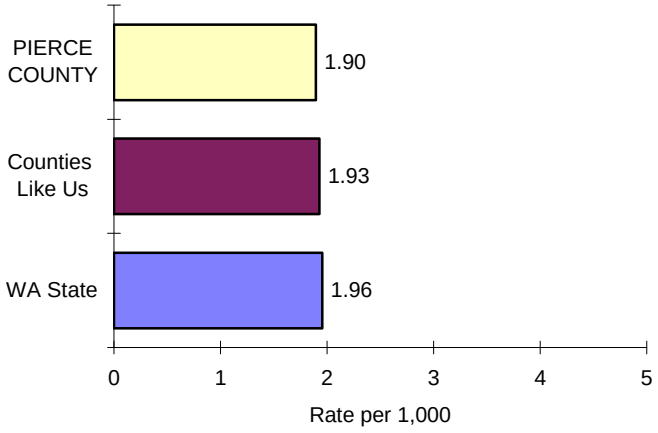
Graph values are for 1990. Source: 27.

Risk Factor: Academic Failure

Beginning in the late elementary grades, academic failure increases the risk of drug use. Children fail for many reasons. It appears that the experience of failure - not necessarily ability - increases the risk of problem behaviors (DRP, 1996).

Indicators chosen to represent this risk factor include academic performance on test scores for 4th grade and 8th grade students and rates of annual GED completion. Poor academic performance among young students and higher rates of GED completion (signifying poorer performance during traditional schooling) likely are associated with greater levels of failure in elementary school.

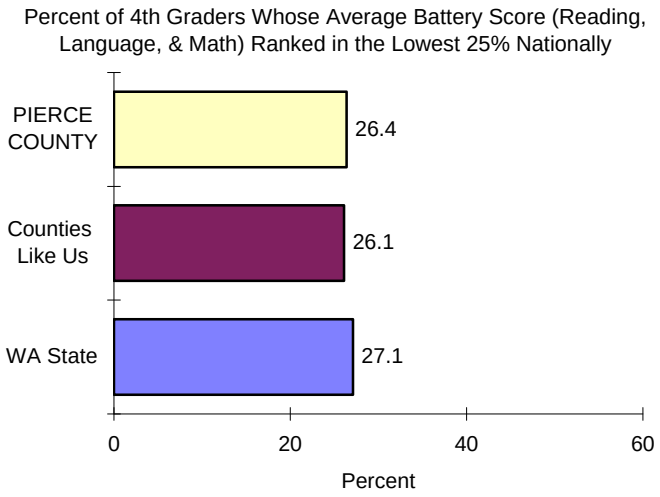
GED Certificates issued per 1,000 Persons (all ages)



The **GED Diplomas Issued** indicator is the number of persons (all ages) receiving their GED certificate as a rate per 1,000 persons.

Graph values are averages for 1990 to 1995. Sources: 18, 08.

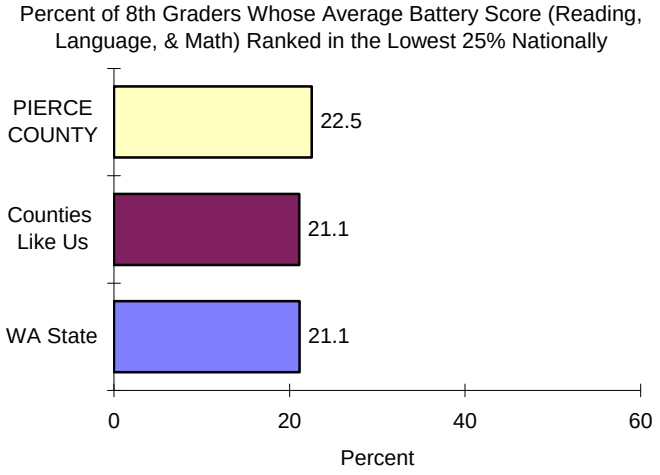
Risk Factor: Academic Failure



The **Poor Academic Performance, Grade 4** indicator is the number of fourth graders whose Battery test score was in the lowest 25% compared to the national norm group as a percentage of all fourth graders who took the Battery test.

The Battery test score is the average of the scores on the reading, language, and math portions of the Comprehensive Tests of Basic Skills, 4th edition.

Graph values are averages for 1991 to 1995. Source: 19.



The **Poor Academic Performance, Grade 8** indicator is the number of eighth graders whose Battery test score was in the lowest 25% compared to the national norm group as a percentage of all eighth graders who took the Battery test.

The Battery test score is the average of the scores on the reading, language, and math portions of the Comprehensive Tests of Basic Skills, 4th edition.

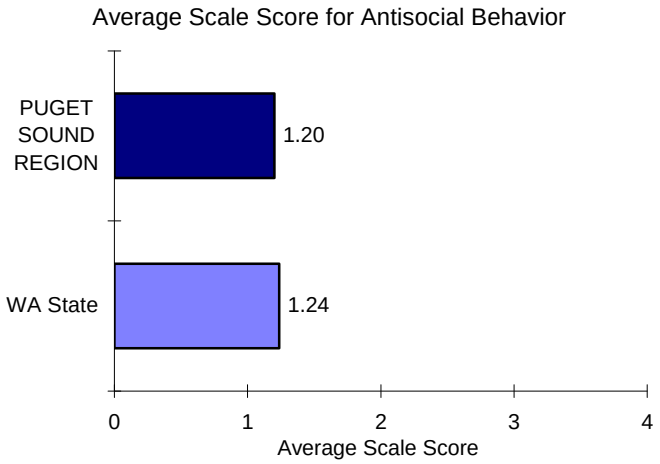
Graph values are averages for 1991 to 1995. Source: 19.

Risk Factor: Early and Persistent Antisocial Behavior

Boys who are aggressive in grades K-3 are at higher risk for substance abuse. When a boy's aggressive behavior in the early grades is combined with isolation or withdrawal, there is an even greater risk of problems in adolescence. This increased risk also applies to aggressive behavior combined with hyperactivity or attention deficit disorder. This risk factor also includes persistent antisocial behavior in early adolescence, like misbehaving in school, skipping school, and getting into fights with other children. Young people, both girls and boys, who engage in these behaviors during early adolescence are at increased risk for drug abuse (DRP, 1996).

No archival indictors were found to represent this risk factor. However, questions which assess this risk factor were asked in the 1995 Washington State Survey of Adolescent Behaviors. Students in 6th, 8th, 10th, and 12th grades responded to eight questions which asked the number of times during the past 12 months they had: 1) "been suspended;" 2) "carried a handgun;" 3) "sold illegal drugs;" 4) "stolen or tried to steal a motor vehicle;" 5) "been arrested;" 6) "attacked someone with the idea of seriously hurting them;" 7) "been drunk or high at school;" or 8) "taken a handgun to school."

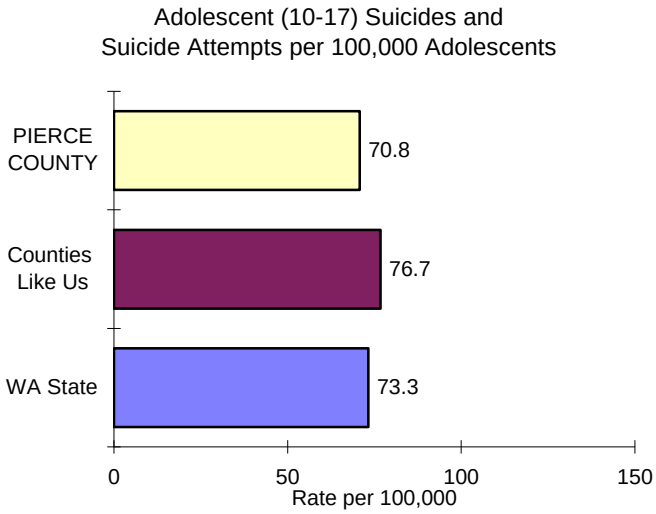
The average response (minimum level of antisocial behavior=1, maximum level of antisocial behavior=8) across the eight questions was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. For additional information or a report on the Washington State Survey of Adolescent Behaviors contact the Washington State Office of Superintendent of Public Instruction, PO Box 47200, Olympia, WA 98504-7200. Regional and statewide results are presented below.



Risk Factor: Alienation, Rebelliousness, and Lack of Social Bonding

Young people who feel they are not part of society, are not bound by rules, do not believe in trying to be successful or responsible or who take an active rebelliousness stance toward society are at higher risk of drug abuse (DRP, 1996).

The number of attempted and successful suicides was chosen as a proxy measure of this risk factor. More frequent attempted and successful suicides suggest higher levels of such feelings among youth.



The **Adolescent Suicides and Suicide Attempts** indicator is the number of children (ages 10-17) who committed suicide or were admitted to the hospital for suicide attempts as a rate per 100,000 children (ages 10-17).

Suicides are based on death certificate information.

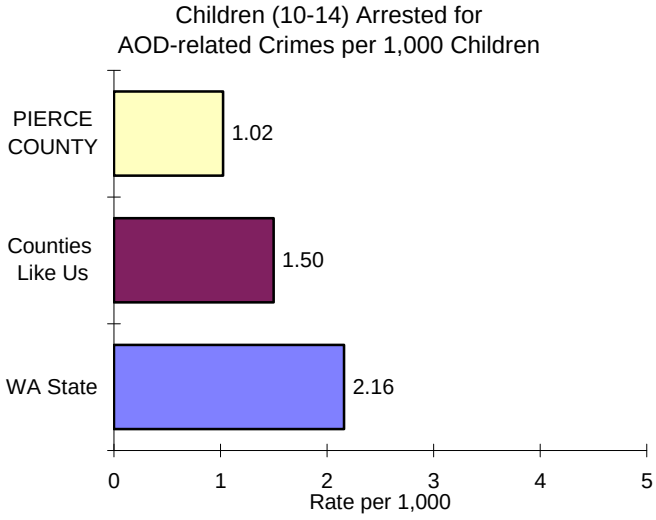
Suicide attempts are based on hospital admissions data but do not include admissions to federal hospitals.

Graph values are averages for 1990 to 1992. Sources: 02, 03, 08.

Risk Factor: Early Initiation of the Problem Behavior

The earlier young people begin using drugs and committing crimes, the greater the likelihood that they will have problems with drugs later on. For example, research shows that young people who initiate drug use before the age of 15 are at twice the risk of having drug problems as those who wait until after the age of 19 (DRP, 1996).

Several indicators related to criminal activity among young adolescents, ages 10-14, were chosen as proxy measures for this risk factor. Increased rates of alcohol- or drug-related crimes or other types of crimes among 10-14 year olds likely reflect elevated levels of problem behaviors among these youth.

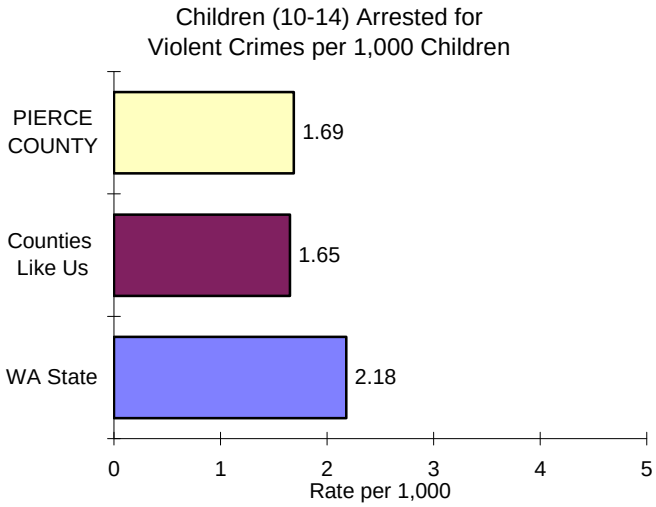


The **Alcohol- and Other Drug-related Arrests, Age 10-14** indicator is the number of children (ages 10-14) arrested for alcohol and drug law violations as a rate per 1,000 children (ages 10-14).

Alcohol violations include all crimes involving driving under the influence, liquor law violations, and drunkenness. For children, arrests for liquor law violations are usually arrests for minor in possession.

Drug law violations include all crimes involving sale, manufacturing, and possession of drugs.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

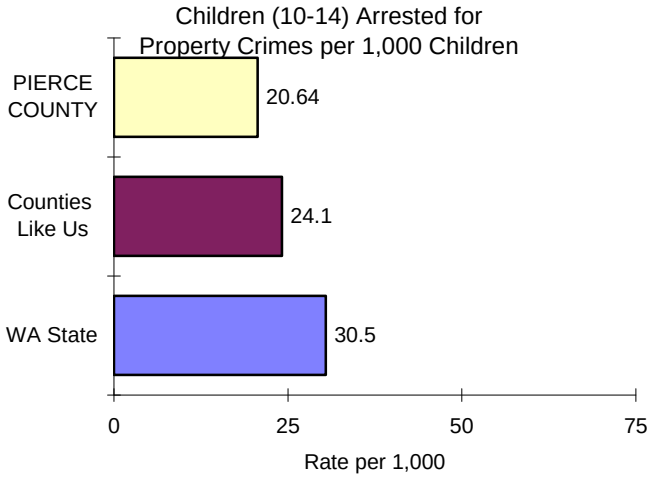


The **Violent Crime Arrests, Age 10-14** indicator is the number of children (ages 10-14) arrested for violent crimes as a rate per 1,000 children (ages 10-14).

Violent crimes include all crimes involving criminal homicide, forcible rape, robbery, and aggravated assault. Simple assault is not defined as a violent crime.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

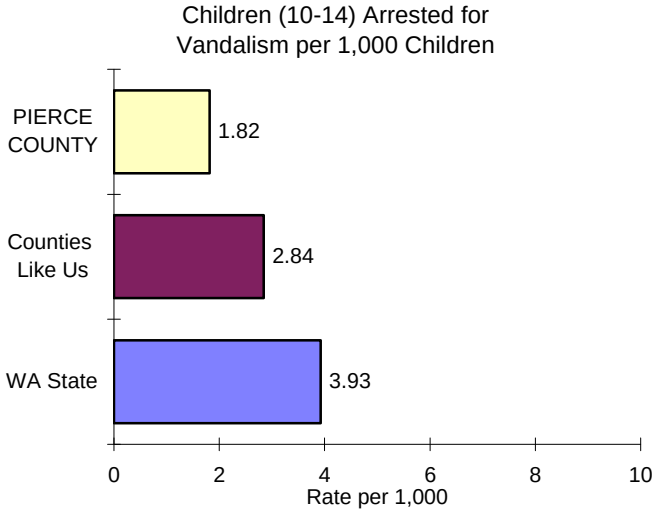
Risk Factor: Early Initiation of the Problem Behavior



The **Property Crime Arrests, Age 10-14** indicator is the number of children (ages 10-14) arrested for property crimes as a rate per 1,000 children (ages 10-14).

Property crimes include all crimes involving burglary, larceny-theft, motor vehicle theft, and arson.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.



The **Vandalism Arrests, Age 10-14** indicator is the number of children (ages 10-14) arrested for vandalism as a rate per 1,000 children (ages 10-14).

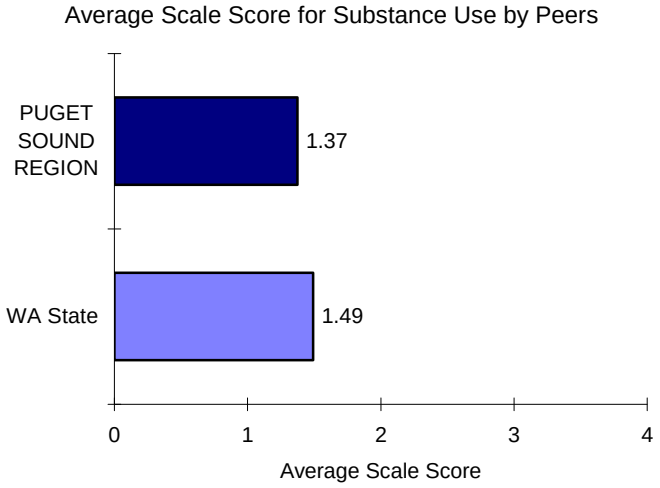
Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Risk Factor: Friends Who Engage in the Problem Behavior

Young people who associate with peers who engage in drug use are much more likely to engage in drug use themselves. This is one of the most consistent predictors that research has identified. Even when young people come from well-managed families and do not experience other risk factors, just hanging out with friends who engage in problem behavior greatly increases the child's risk. However, young people who experience a low number of risk factors are less likely to associate with friends who are involved in problem behavior (DRP, 1996).

No archival indictors were found to represent this risk factor. However, questions which assess this risk factor were asked in the 1995 Washington State Survey of Adolescent Behaviors. Students in 6th, 8th, 10th, and 12th grades responded to four questions regarding peer use of cigarettes, alcohol, marijuana, and cocaine.

The average response (Lowest peer use=1, Highest peer use=4) across the four questions was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. For additional information or a report on the Washington State Survey of Adolescent Behaviors contact the Washington State Office of Superintendent of Public Instruction, PO Box 47200, Olympia, WA 98504-7200. Regional and statewide results are presented below.

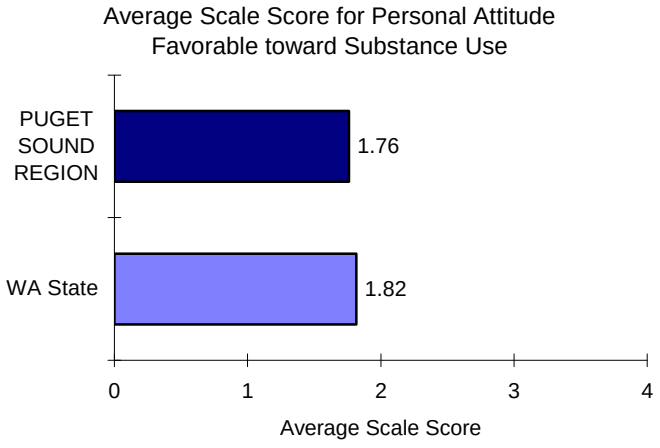


Risk Factor: Favorable Attitudes Toward the Problem Behavior

During the elementary school years, children usually express anti-drug attitudes. They have difficulty imagining why people use drugs. However, in middle school, as others they know participate in such activities, their attitudes often shift toward greater acceptance of these behaviors. This acceptance places them at higher risk (DRP, 1996).

No archival indictors were found to represent this risk factor. However, questions which assess this risk factor were asked in the 1995 Washington State Survey of Adolescent Behaviors. Students in 6th, 8th, 10th, and 12th grades responded to four questions asking, "How wrong do you think it is for someone your age to: [1] drink beer, wine, or hard liquor regularly, [2] smoke cigarettes, [3] smoke marijuana, [and 4] use LSD, cocaine, amphetamines, or another illegal drug."

The average response (Very wrong=1, Not wrong at all=4) across the four questions was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. For additional information or a report on the Washington State Survey of Adolescent Behaviors contact the Washington State Office of Superintendent of Public Instruction, PO Box 47200, Olympia, WA 98504-7200. Regional and statewide results are presented below.

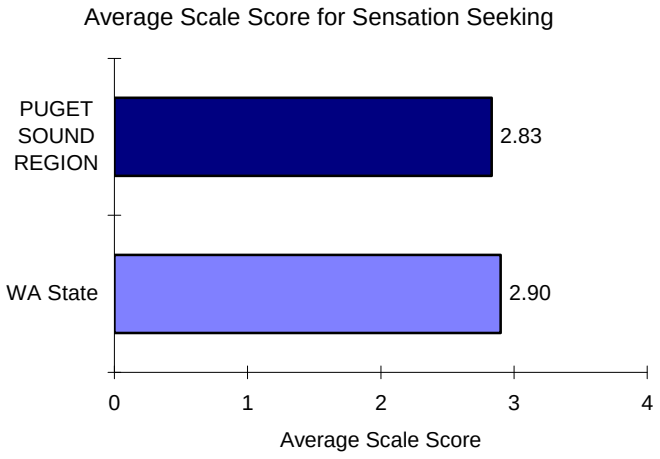


Risk Factor: Constitutional Factors

Constitutional factors may have a biological or physiological basis. These factors are often seen in young people with behaviors such as sensation-seeking, low harm avoidance and lack of impulse control. These factors appear to increase the risk of young people abusing drugs, engaging in delinquent behavior, and committing violent acts (DRP, 1996).

No archival indictors were found to represent this risk factor. However, questions which assess the aspect of sensation-seeking were asked in the 1995 Washington State Survey of Adolescent Behaviors. Students in 8th, 10th, and 12th grades responded to two questions asking how many times they have "Done what feels good no matter what?" or, "Done something dangerous because someone dared you to do it?"

The average response (Never=1, Very often=6) across the two questions was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. For additional information or a report on the Washington State Survey of Adolescent Behaviors contact the Washington State Office of Superintendent of Public Instruction, PO Box 47200, Olympia, WA 98504-7200. Regional and statewide results are presented below.



6 INDICATOR DATA FOR PROTECTIVE FACTORS

Puget Sound School Survey Region[1] and Washington State

No archival indicators were found to represent any of the protective factors. However, questions which assess these protective factors were asked in the 1995 Washington State Survey of Adolescent Behaviors and are described below where appropriate. For additional information or a report on the Washington State Survey of Adolescent Behaviors contact the Washington State Office of Superintendent of Public Instruction, PO Box 47200, Olympia, WA 98504-7200.

Protective Factors

Community Rewards for Conventional Involvement 6-2
Family Rewards for Conventional Involvement 6-3
School Rewards for Conventional Involvement 6-3
Opportunities for Positive Involvement in the Family 6-5
Opportunities for Positive Involvement in the School 6-5
Belief in the Moral Order 6-6
Social Skills 6-7

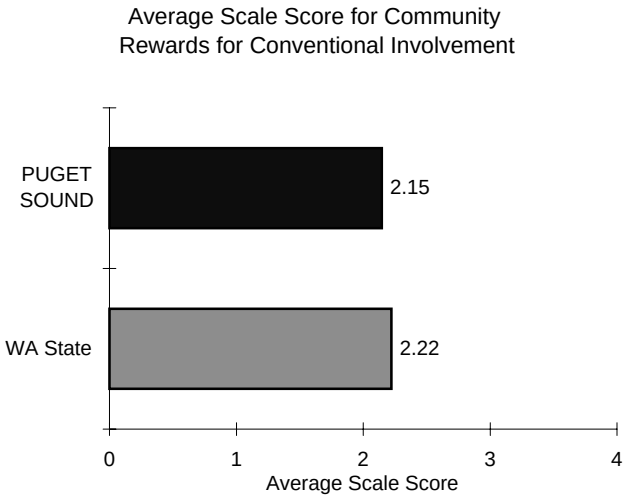
[1] *Puget Sound school survey region includes King, Kitsap, and Pierce Counties*

Protective Factor: Community, Family, and School Rewards for Conventional Involvement

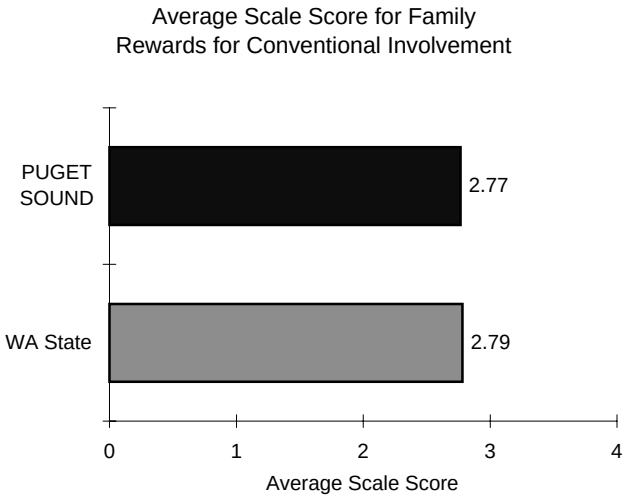
When young people are rewarded for positive participation in activities that are important in their development, it is less likely that they will engage in high risk health behaviors (DRP, 1996).

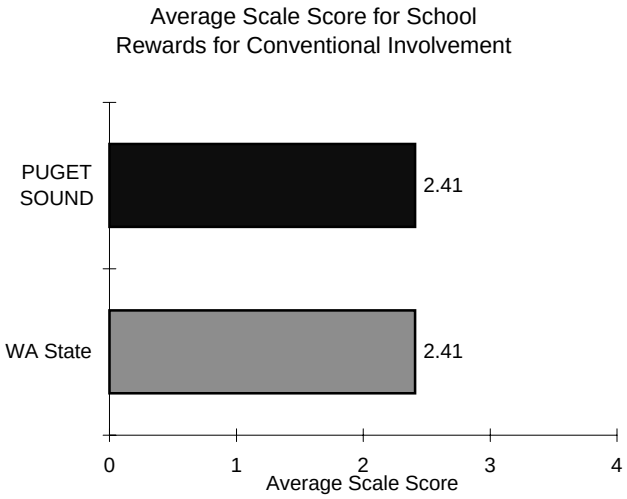
In the school survey, community rewards for conventional involvement were assessed among 8th, 10th, and 12th grade students using three questions concerning neighbors' acknowledgment, encouragement, and pride for things done well by the child. Family rewards were assessed using two questions on parental acknowledgment and pride for things well done by a child and two additional questions on positive interactions with one's mother and one's father. School rewards were also assessed using two questions on acknowledgment by teachers and on the school's communication of positive activities to the student's parent.

The average response (least rewards=1, most rewards=4) in each reward-related protective factor was calculated for each grade in four survey regions. For each factor, the average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. Regional and statewide results are presented below.



Protective Factor: Community, Family, and School Rewards for Conventional Involvement





Protective Factor: Opportunities for Positive Involvement in Families and School

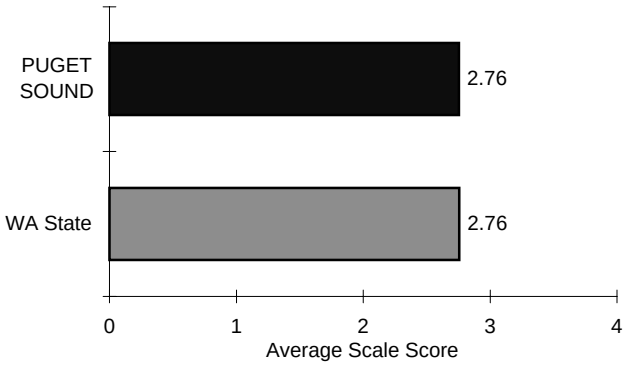
Young people who are given more opportunities to participate meaningfully in important activities at school or in the responsibilities and activities of their families are less likely to engage in drug use (DRP, 1996).

In the school survey, opportunities for positive involvement in school were assessed among 8th, 10th, and 12th grade students using two questions, one concerning the opportunities "... to help decide things like class activities and rules," and the other on "... chances for students to talk with a teacher one-on-one." Opportunities for positive involvement in the family were assessed using three questions, the first on opportunities to do fun things with parents, the second on inclusion in family decisions, and third, the likelihood of approaching a parent with a personal problem.

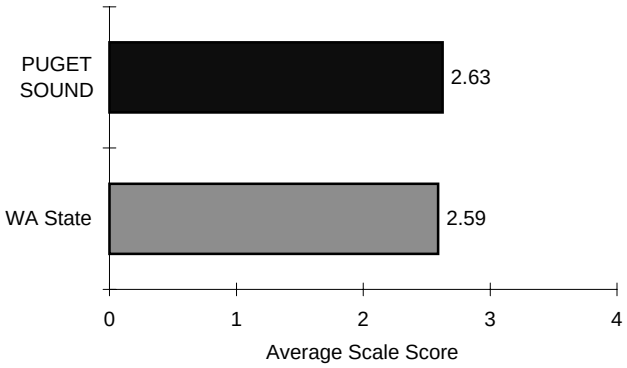
The average response (least opportunities=1, most opportunities=4) in each opportunity-related protective factor was calculated for each grade in four survey regions. For each factor, the average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. Regional and statewide results are presented on the following page.

Protective Factor: Opportunities for Positive Involvement in Families and School

Average Scale Score for Opportunities for Positive Involvement in the Family



Average Scale Score for Opportunities for Positive Involvement in the School



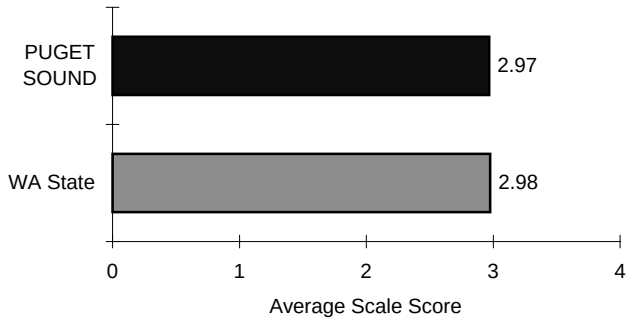
Protective Factor: Belief in the Moral Order

Young people who generally prescribe to a belief in what is "right" or "wrong" are at lower risk for engaging in problem behaviors (DRP, 1996).

In the school survey, belief in the moral order was assessed among 6th, 8th, 10th, and 12th grade students using four questions. The questions assessed the students level of concern on whether it was okay "... take something without asking if you can get away with it," "...cheat at school," "... beat up people if they start the fight," or, whether it is important to "... be honest with your parents even if they become upset or you get punished."

The average response (least moral=1, most moral=4) was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. Regional and statewide results are presented below.

Average Scale Score for Belief in the Moral Order

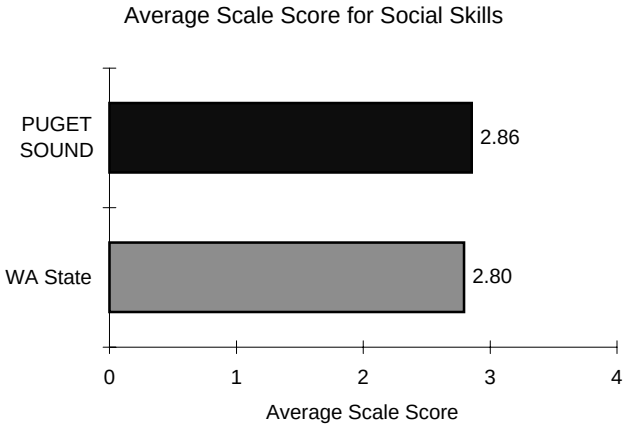


Protective Factor: Social Skills

Young people who are socially competent and engage in positive interpersonal relations with their peers are less likely to participate in negative health risk behaviors (DRP, 1996).

In the school survey, social skills are assessed among 6th, 8th, 10th, and 12th grade students using responses to four scenarios. The scenarios focus on potential problem situations for young persons and deal with shoplifting, negotiation with parents, interaction with another aggressive teenager, and encounters with alcohol.

The average response (least appropriate=1, most appropriate=4) was calculated for each grade in four survey regions. The average responses for each grade level were then averaged to generate an overall score for the survey region. State values, weighted by regional enrollment, were calculated from the entire sample. Regional and statewide results are presented below.



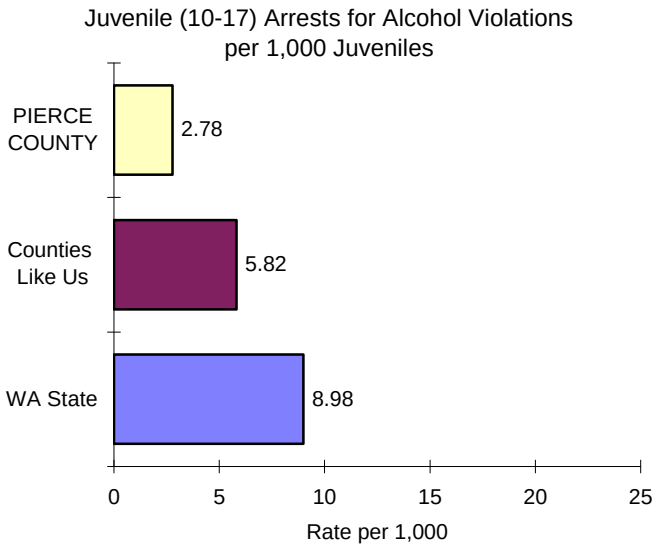
7 ADDITIONAL INDICATORS FOR SUBSTANCE ABUSE AND OTHER PROBLEM BEHAVIORS

Pierce County, Counties Like Us[1], and Washington State

In the process of collecting archival data, a number of indicators relating to drug use, criminal activity, and sexual activity could not be neatly tied to specific risk or protective factors. However, research (as well as an obvious relationship in some cases) suggests that elevated levels of these indicators correspond to elevated levels of substance abuse in the community. Evaluation of these indicator levels may aid or further the understanding of community successes or problems regarding substance abuse and other interrelated problem behaviors. Higher levels of these indicators likely correspond to higher rates of substance abuse and problems often related to substance abuse.

[1] *Pierce, Snohomish, and Spokane Counties*

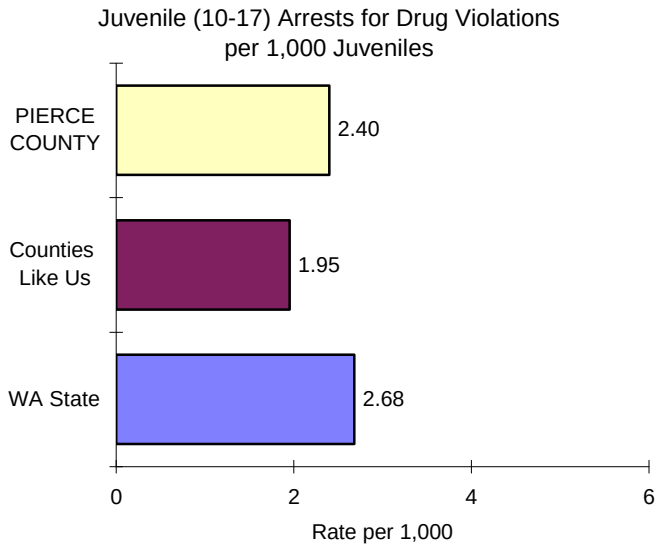
Additional Indicators for Substance Abuse and Other Problem Behaviors



The **Juvenile Arrests for Alcohol Violations** indicator is the number of juveniles (ages 10-17) arrested for alcohol violations as a rate per 1,000 juveniles (ages 10-17).

Alcohol violations include all crimes involving driving under the influence, liquor law violations, and drunkenness. For juveniles, arrests for liquor law violations are usually arrests for minor in possession. DUI arrests by the Washington State Patrol (7% of all Juvenile Arrests of Alcohol Violations) are not included since they are not assigned to counties.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

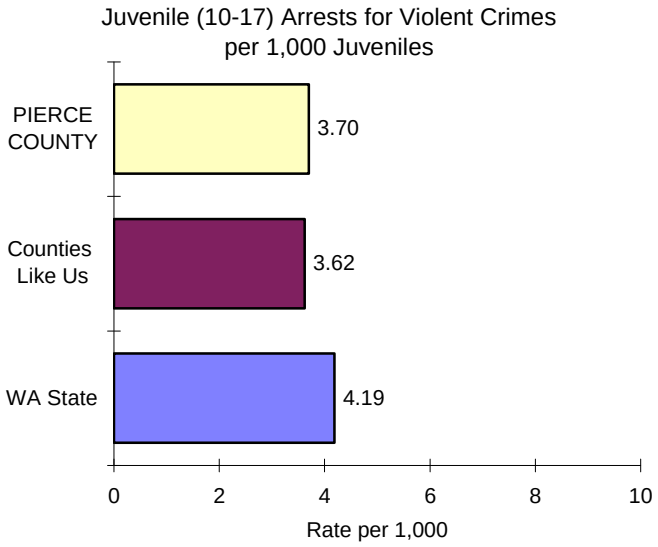


The **Juvenile Arrests for Drug Law Violations** indicator is the number of juveniles (ages 10-17) arrested for drug law violations as a rate per 1,000 juveniles (ages 10-17).

Drug law violations include all crimes involving sale, manufacturing, and possession of drugs.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

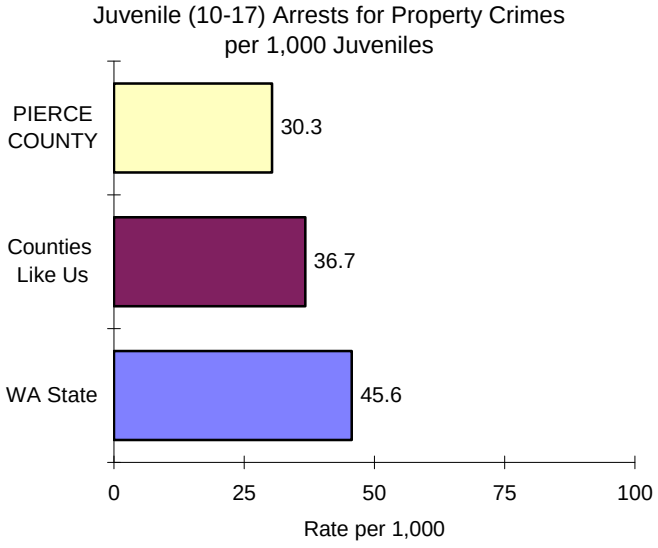
Additional Indicators for Substance Abuse and Other Problem Behaviors



The **Juvenile Arrests for Violent Crimes** indicator is the number of juveniles (ages 10-17) arrested for violent crimes as a rate per 1,000 juveniles (ages 10-17).

Violent crimes include all crimes involving criminal homicide, forcible rape, robbery, and aggravated assault. Simple assault is not defined as a violent crime.

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

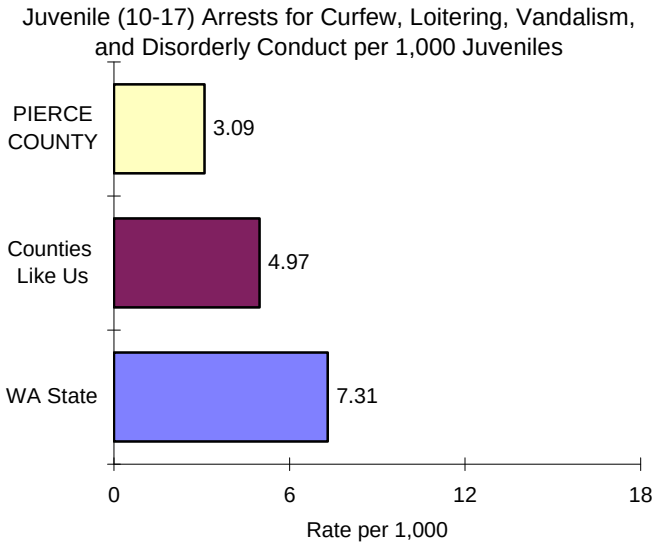


The **Juvenile Arrests for Property Crimes** is the number of juveniles (ages 10-17) arrested for property crimes as a rate per 1,000 juveniles (ages 10-17).

Property crimes include all crimes involving burglary, larceny-theft, motor vehicle theft, and arson.

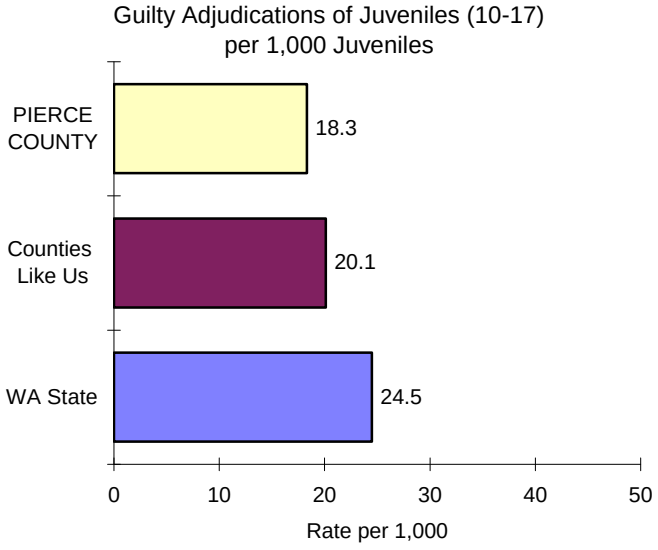
Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.

Additional Indicators for Substance Abuse and Other Problem Behaviors



The **Juvenile Arrests for Curfew, Loitering, Vandalism, and Disorderly Conduct** indicator is the number of juveniles (ages 10-17) arrested for curfew and loitering law violations, vandalism, and disorderly conduct as a rate per 1,000 juveniles (ages 10-17).

Graph values are averages for 1990 to 1993. Sources: 28, 08, 10.



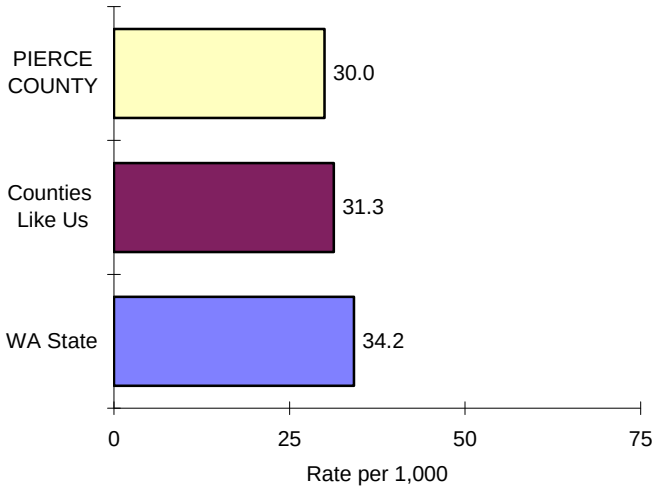
The **Guilty Adjudications of Juveniles** indicator is the number of guilty adjudications of juveniles (ages 0-17) as a rate per 1,000 juveniles (ages 10-17).

Guilty adjudications include sentences to incarceration in state institutions (Juvenile Rehabilitation Administration), incarceration in county operated detention facilities, and county managed community supervision.

Graph values are averages for 1991 to 1995. Sources: 15, 08.

Additional Indicators for Substance Abuse and Other Problem Behaviors

Juvenile (10-17) Diversions per 1,000 Juveniles

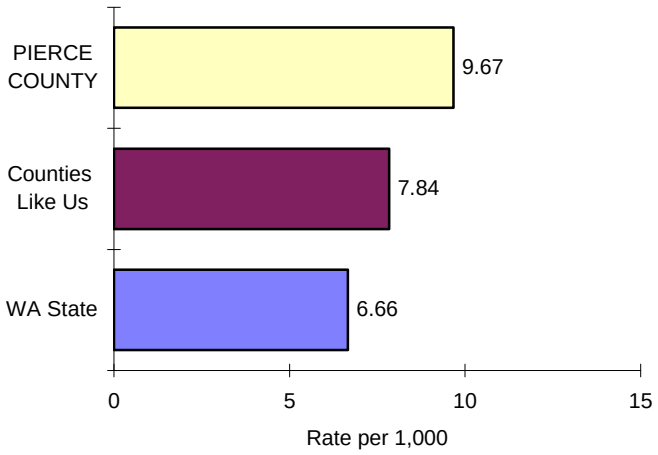


The **Juvenile Diversions** indicator is the number of placements of juveniles (ages 0-17) into diversion programs as a rate per 1,000 juveniles.

A juvenile who has committed a first offense or a minor offense may be placed in a diversion program instead of being taken to court.

Graph values are the averages of 1990 to 1995. Sources: 15, 08.

Adolescents (10-17) in Alcohol or Drug Treatment per 1,000 Adolescents

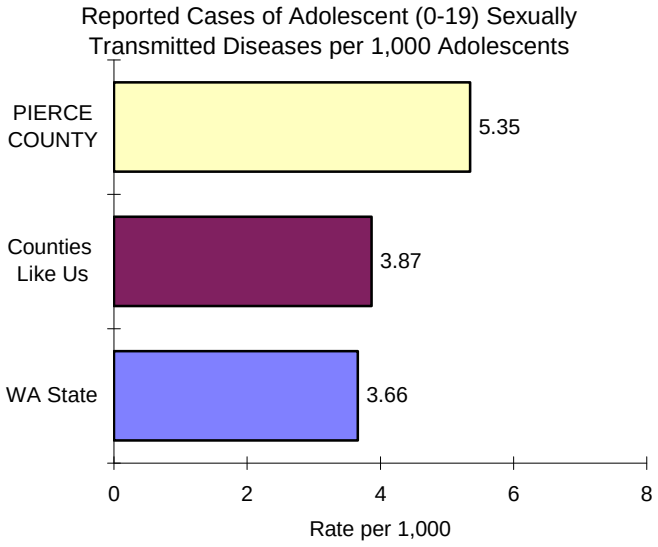


The **Adolescents in Alcohol and Other Drug (AOD) Treatment** indicator is the number of adolescents (ages 10-17) admitted to state funded alcohol and other drug treatment programs per 1,000 adolescents.

Adolescents admitted to treatment more than once during the year were only counted once for that year.

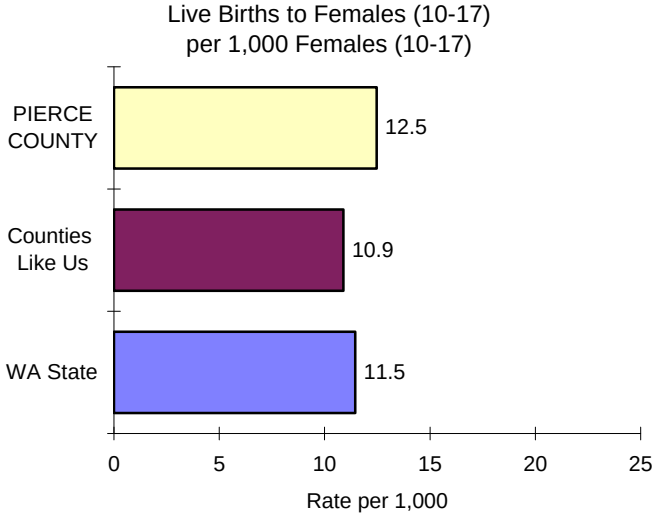
Graph values are the averages of 1991 to 1995. Sources: 07, 08.

Additional Indicators for Substance Abuse and Other Problem Behaviors



The **Adolescent Sexually Transmitted Diseases** indicator is the number of reported cases of gonorrhea, syphilis, or chlamydia in adolescents (ages 0-19) as a rate per 1,000 adolescents (ages 0-19).

Graph values are the averages of 1992 to 1994. Sources: 04, 08.



The **Birthrate Among Adolescents** indicator is the number of live births to females (ages 10-17) as a rate per 1,000 females (ages 10-17).

Graph values are the averages of 1990 to 1994. Sources: 02, 08.

8 STANDARDIZED MEASURES

Pierce County, Counties Like Us[1], Puget Sound School Survey Region[2], and Washington State

Standardized Risk Indicators 8-2

Standardized Protective Factors 8-8

Standardized Indicators of Substance Use and Other Problem Behaviors 8-9

Standardized Summary Measures 8-10

Individual Indicators. In the following graphs, indicator rates are standardized to permit comparisons between indicators. Standardized values appear on the graph if they are between -2 and +2. Standardized values outside of this range are labeled.

Where county indicator rates are reliable (thirty or more total events over the years of available data), standardized values are presented for both the county and for Counties Like Us. If the county indicator rate is not reliable (less than thirty total events over the years of available data) or a "Counties Like Us" rate is unreliable, an NR appears instead of a bar or a star as appropriate. A star will always appear for "Counties Like Us" indicators that are reliable even if the county rate is unreliable.

Summary Measures of Risk Factors. Standardization also allows the calculation of a risk factor summary measure across all indicators of a particular risk factor. The risk factor summary measure is the average of the standardized indicator values within a risk factor. As such, every indicator is weighted equally and of no greater or less importance than any other indicator in creating the summary measure.

Since no standardized measure is calculated for indicators where the underlying data is not reliable, such indicators cannot be included in the calculation of the risk factor summary measure. For example, if two of four indicators associated with a risk factor are not reliable, the county summary measure of the risk factor will be the average of the two indicators that are reliable.

In addition, "Counties Like Us" summary measures are calculated using the same indicators used to calculate the county summary measures. Thus, when the standardized indicator value for "Counties Like Us" is shown and the county indicator value is unreliable and not shown, the "Counties Like Us" value is not included in the calculation of the "Counties Like Us" summary measure. This provides a comparable calculation of summary measures for the county and its "Counties Like Us".

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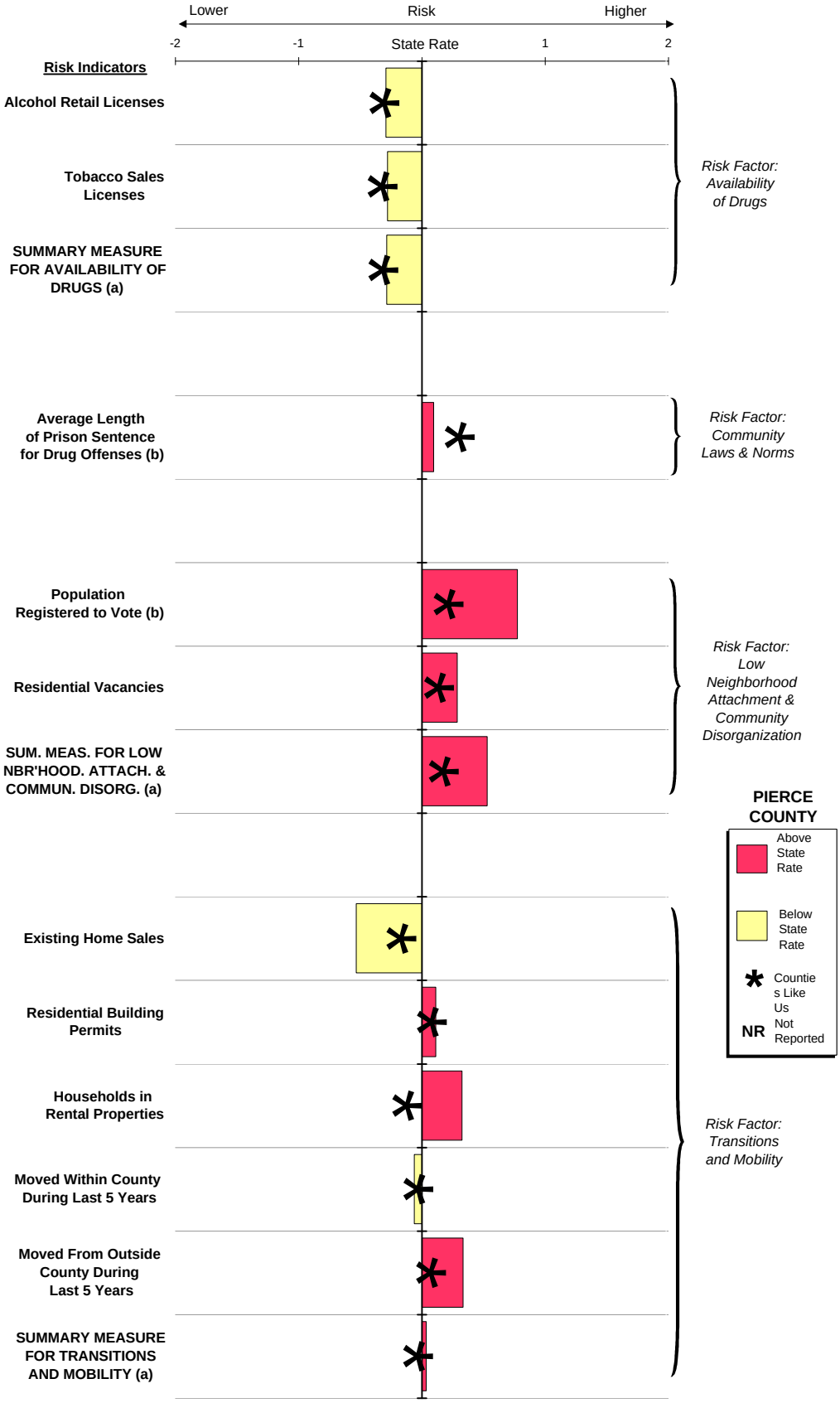
[1] *Pierce, Snohomish, and Spokane Counties*

[2] *Puget Sound school survey region includes King, Kitsap, and Pierce Counties*

Standardized Risk Indicators Grouped by Risk Factor

Community Domain

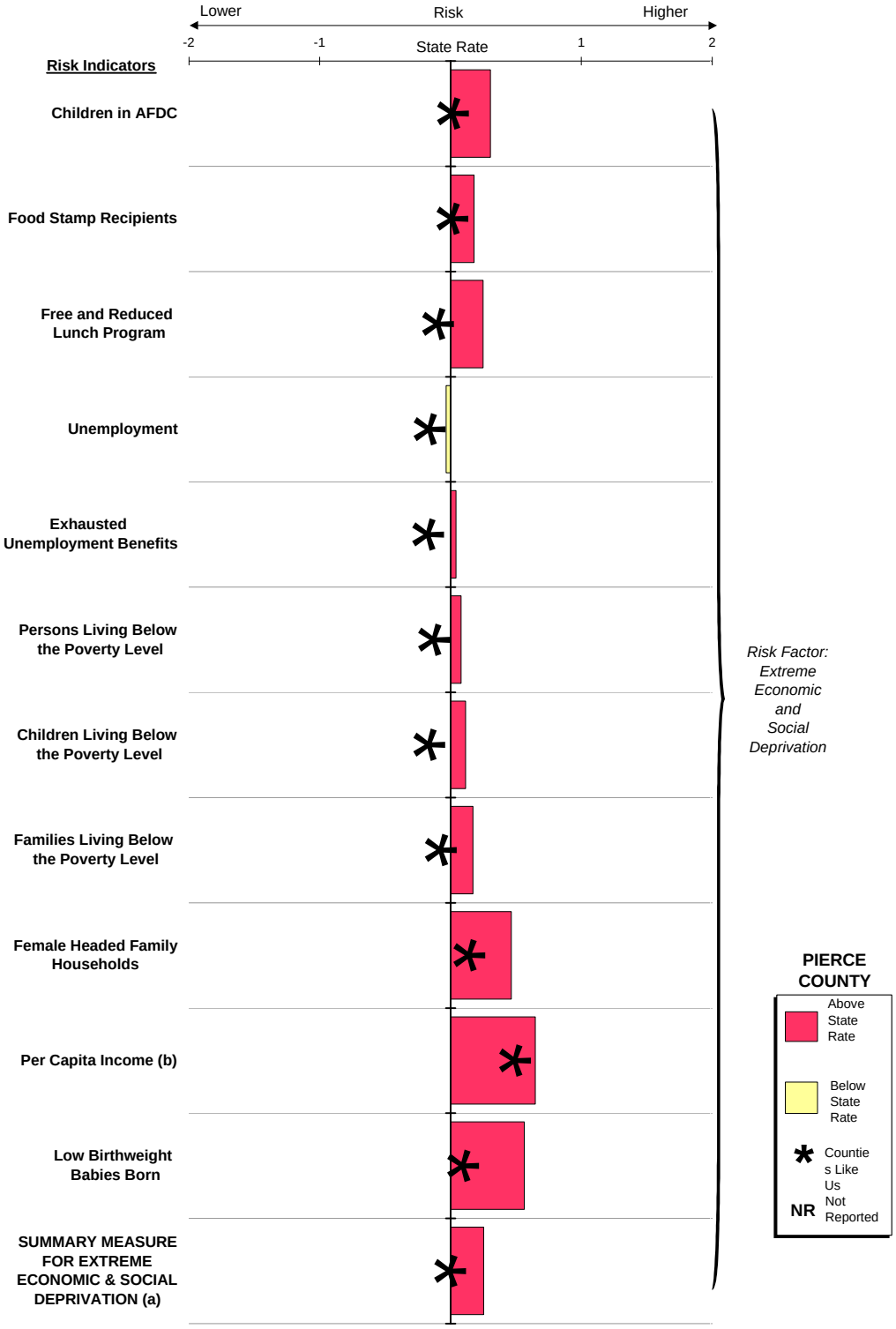


(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

(b) Contrary to most indicators, higher rates before standardization indicate lower risk. The standardized rates were adjusted so that high original rates result in "lower relative risk."

Standardized Risk Indicators Grouped by Risk Factor

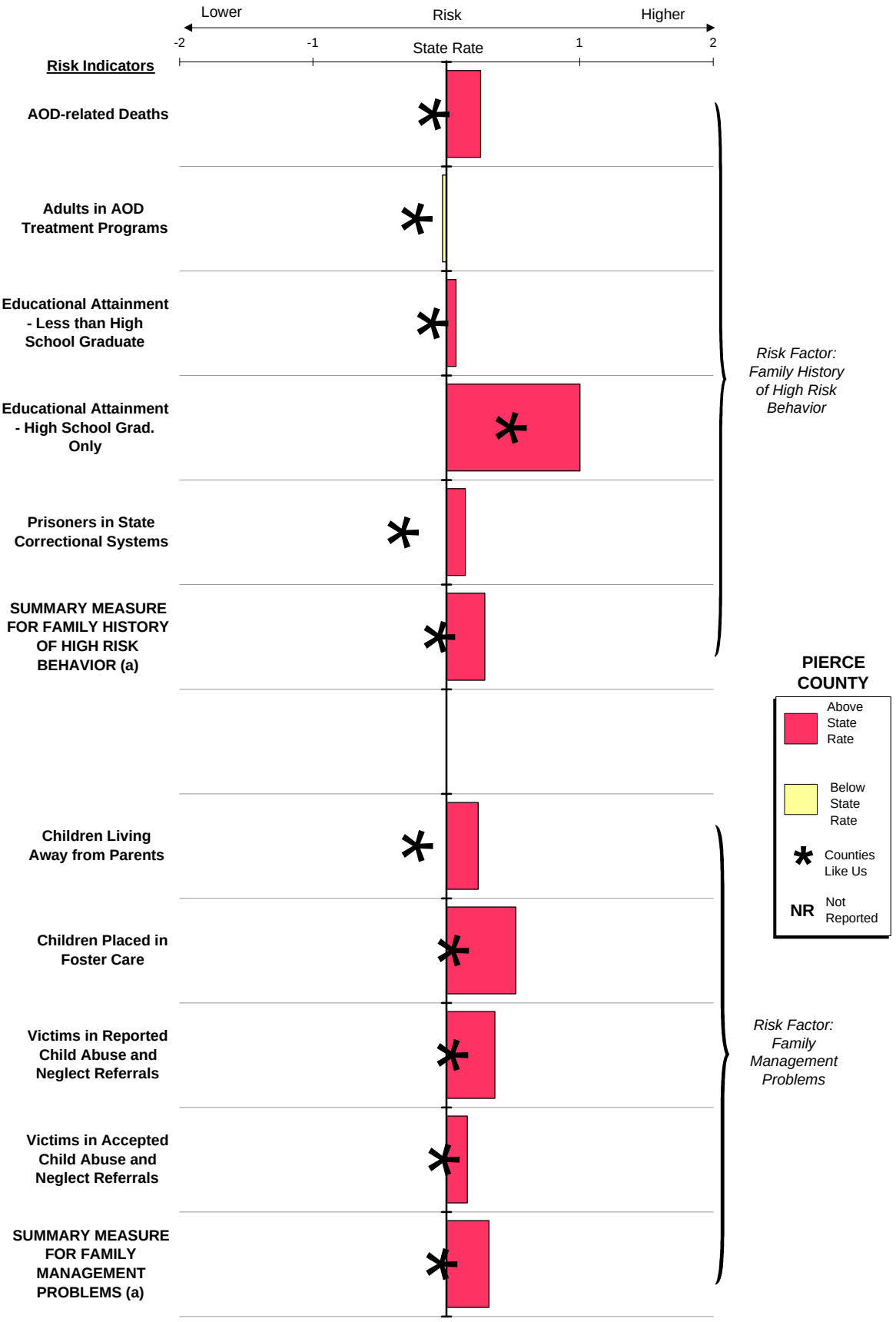
Community Domain



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.
(b) Contrary to most indicators, higher rates before standardization indicate lower risk. The standardized rates were adjusted so that high original rates result in "lower relative risk."

Standardized Risk Indicators Grouped by Risk Factor

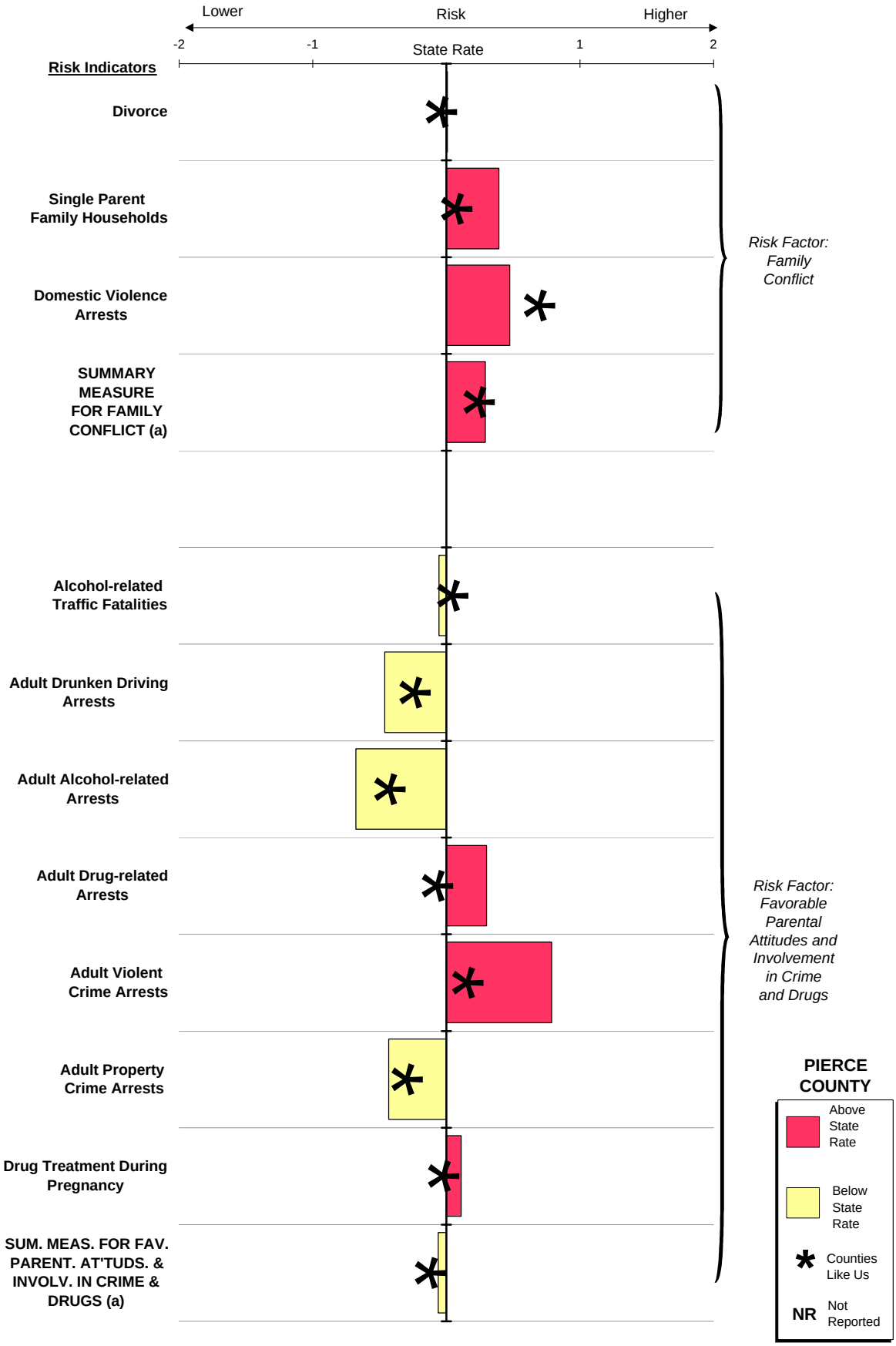
Family Domain



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

Standardized Risk Indicators Grouped by Risk Factor

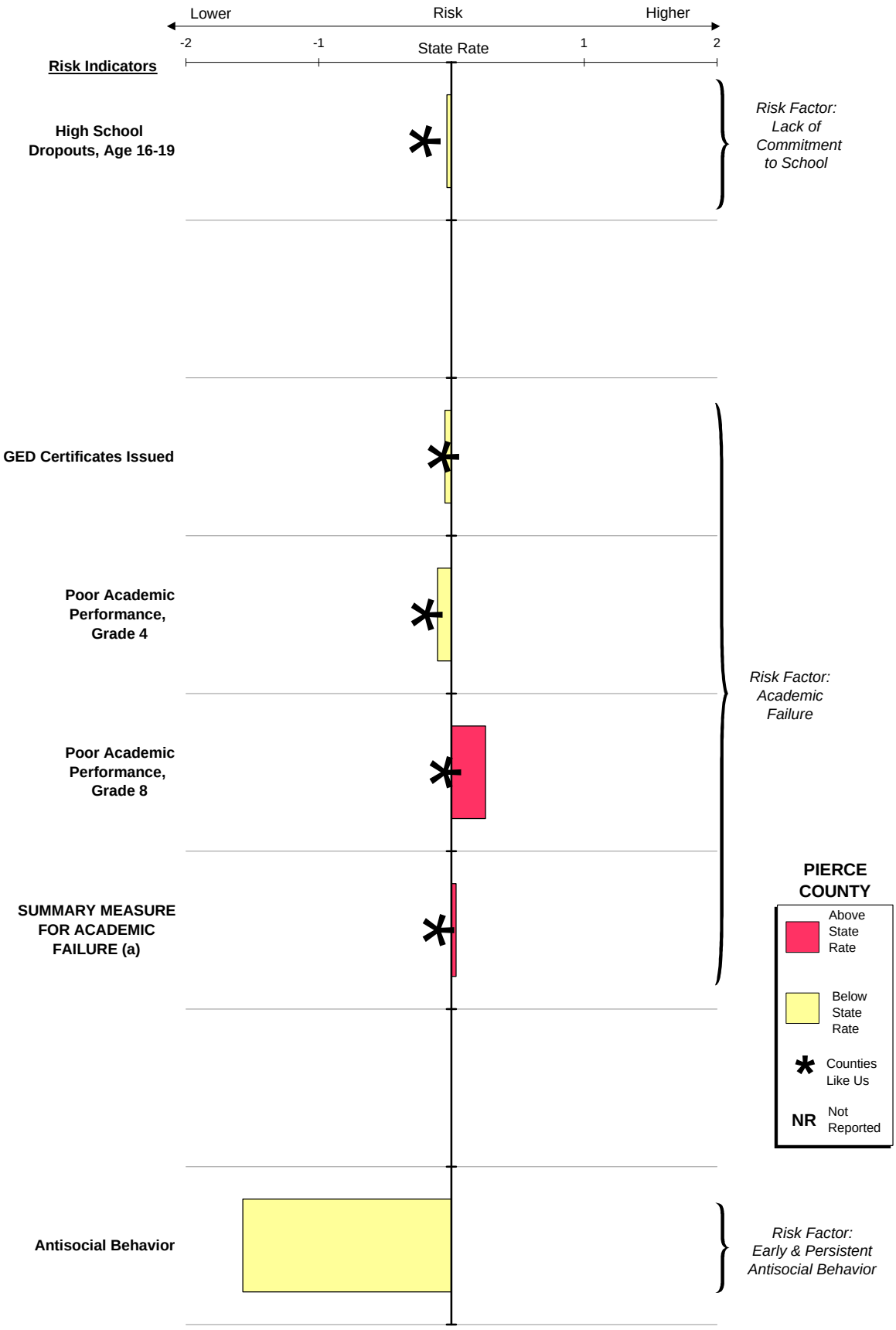
Family Domain



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

Standardized Risk Indicators Grouped by Risk Factor

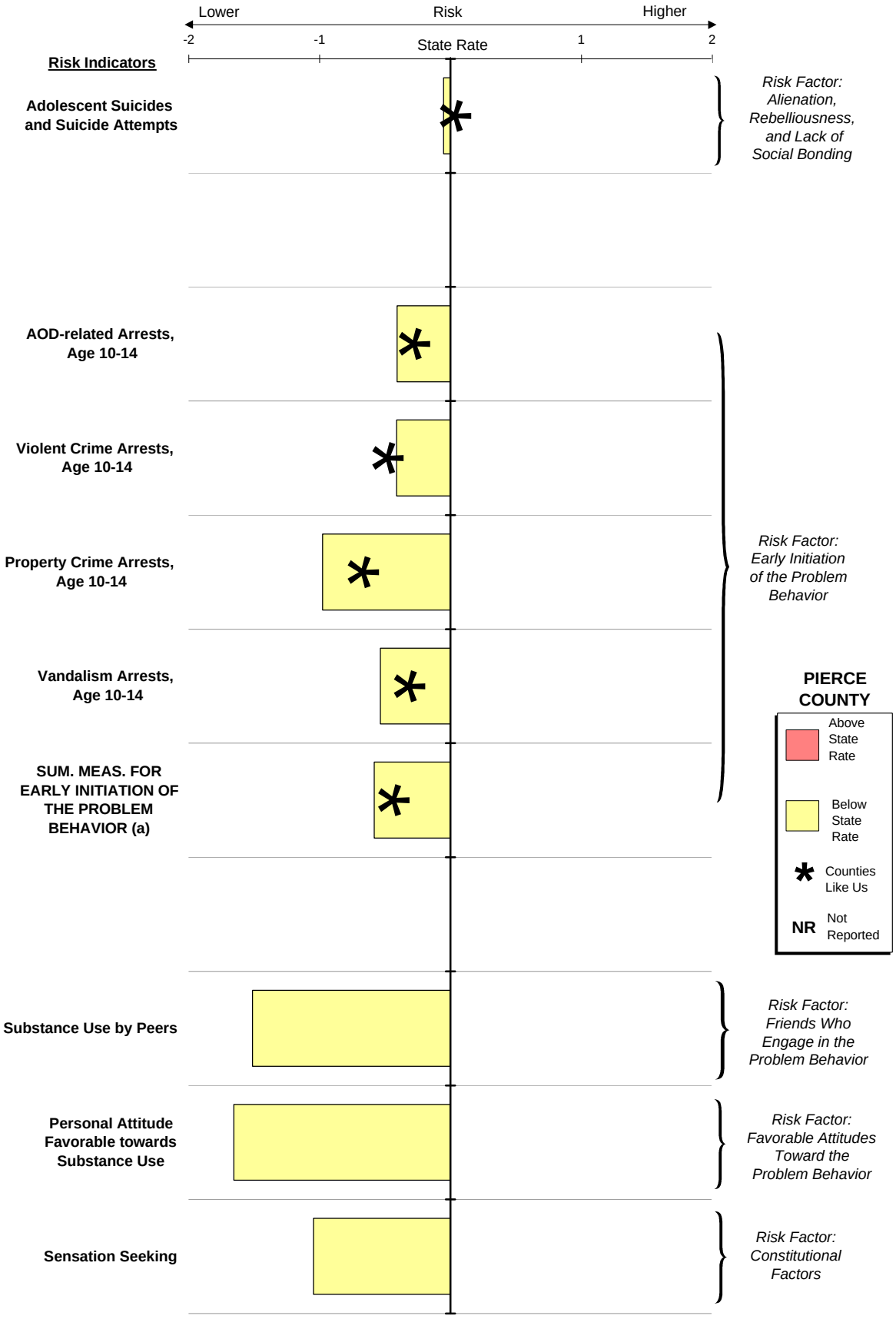
School Domain



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

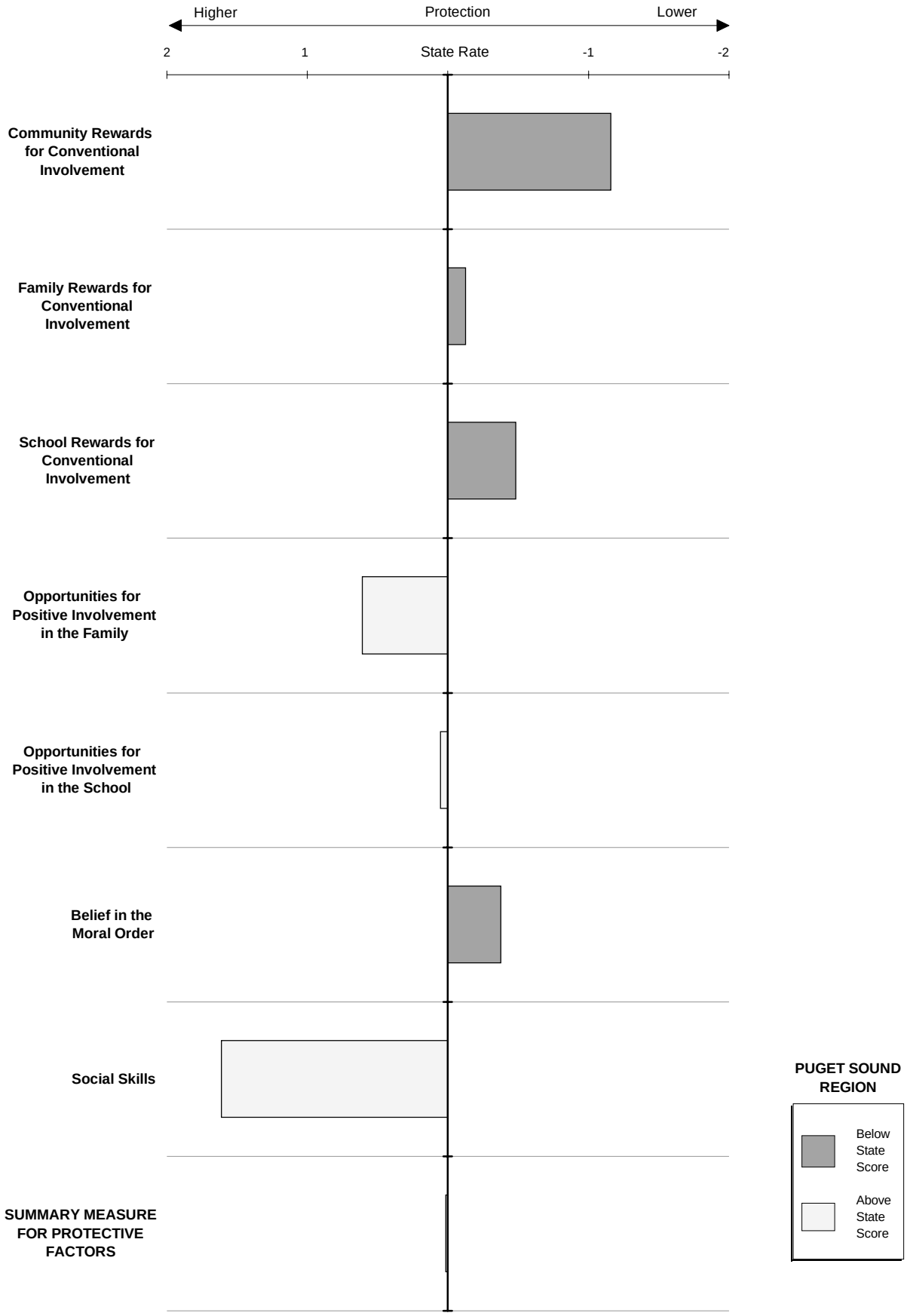
Standardized Risk Indicators Grouped by Risk Factor

Individual / Peer Domain

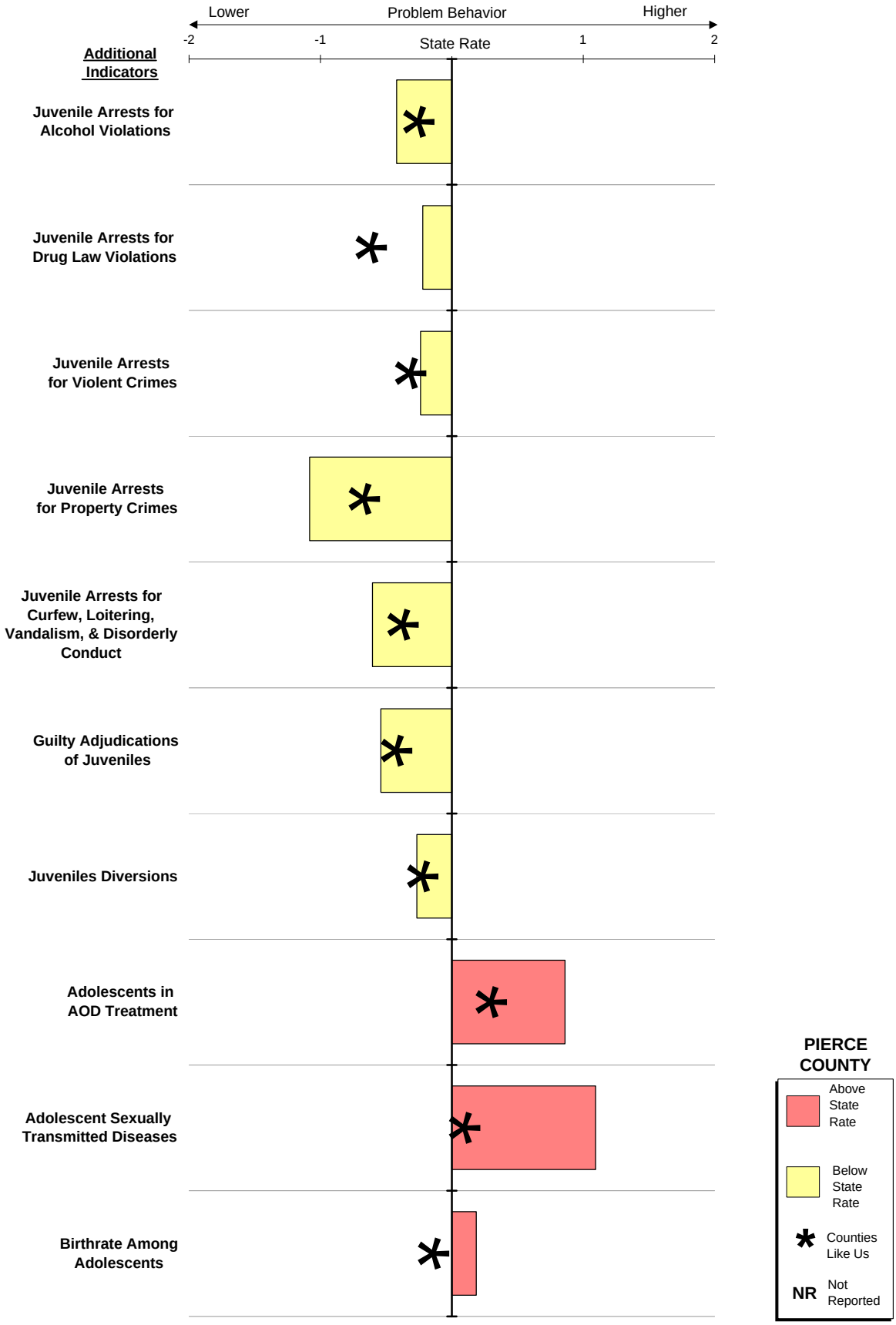


(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

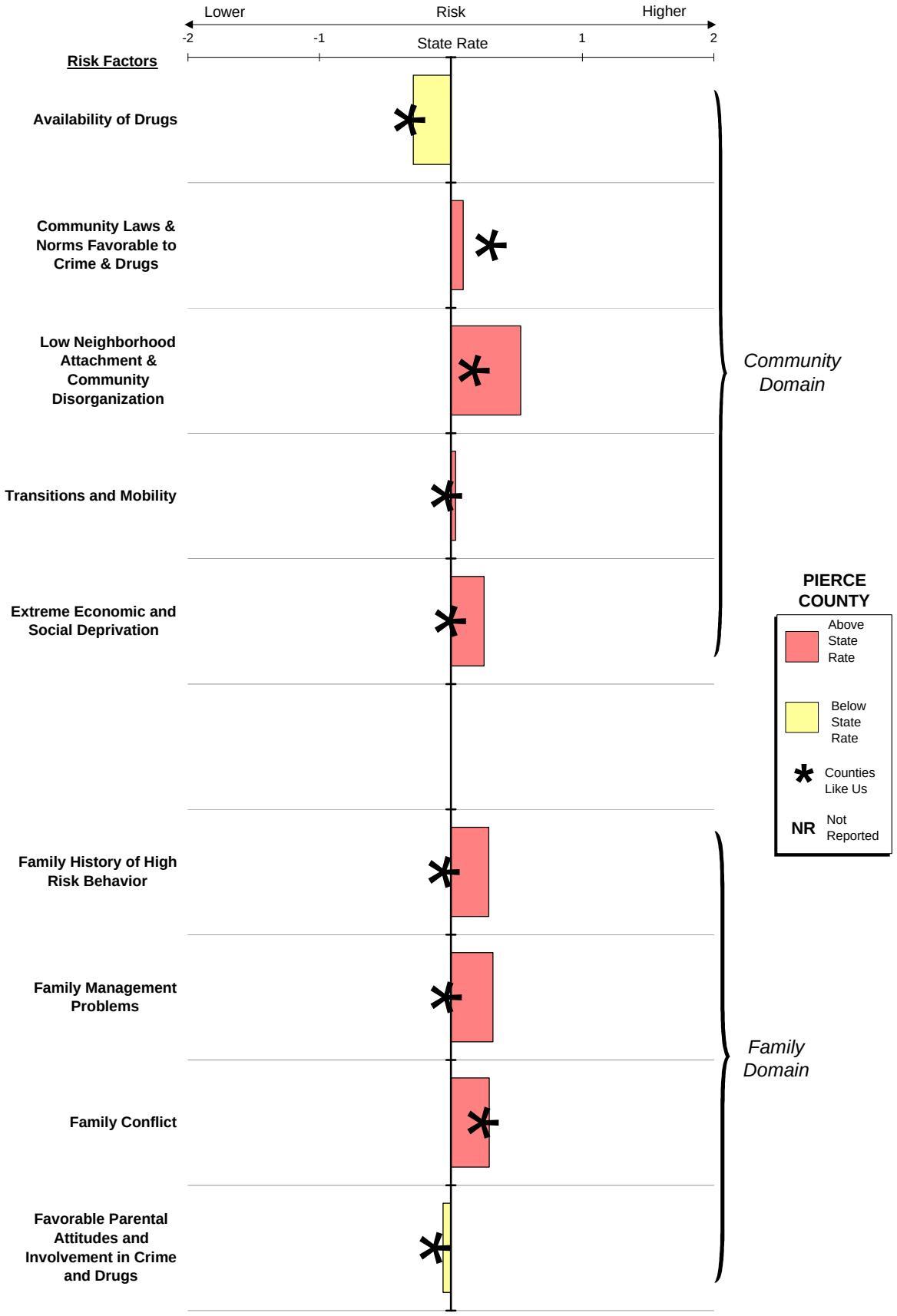
Standardized Protective Factor Measures



Standardized Indicators of Substance Use and Other Problem Behaviors

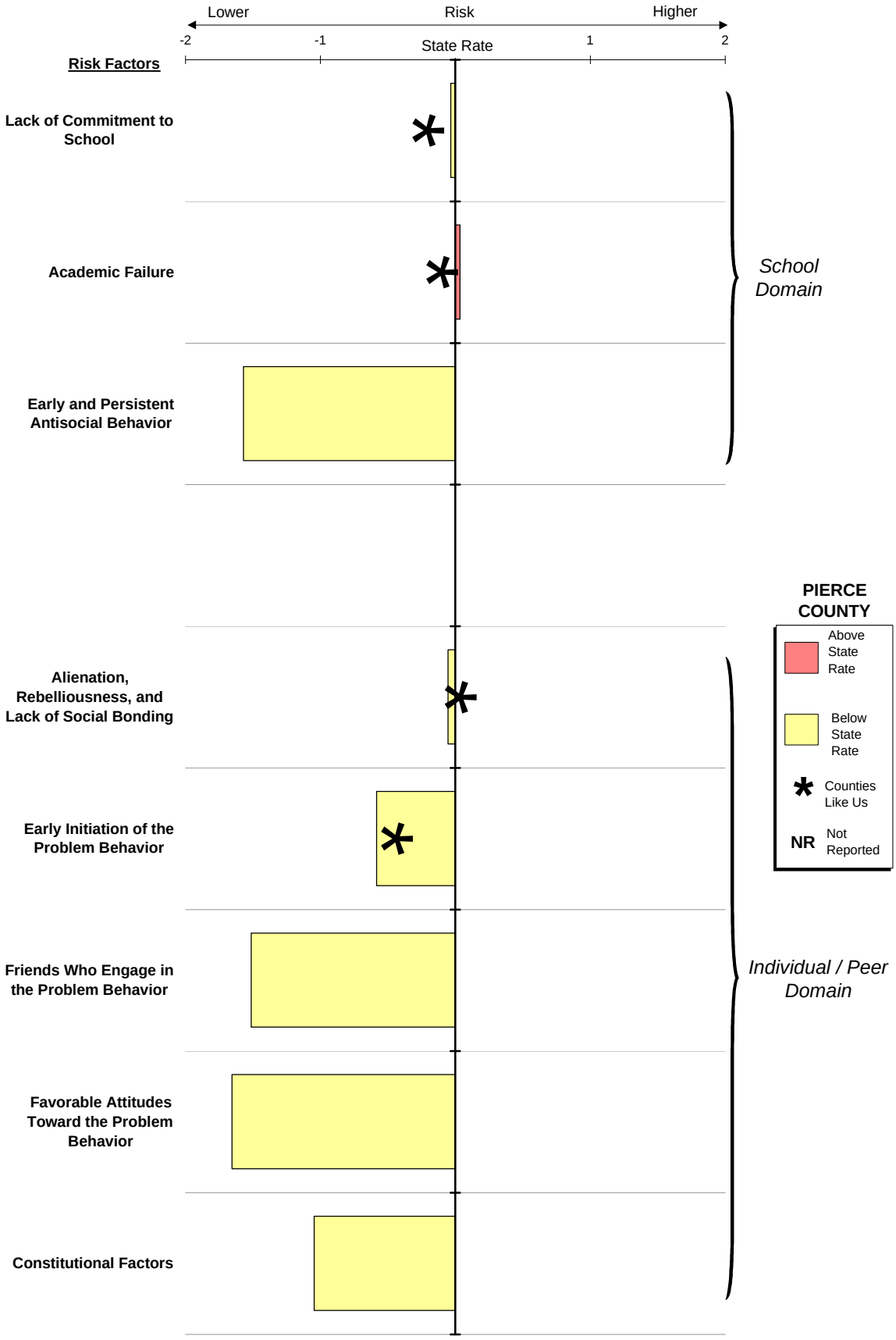


Standardized Summary Measures for Risk Factors Grouped by Domain (a)



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

Standardized Summary Measures for Risk Factors Grouped by Domain (a)



(a) SUMMARY MEASURES for the county and Counties Like Us are based only on indicators where the county measure is reported.

APPENDIX A: DATA SOURCES

WASHINGTON STATE AGENCIES

01 Department of Corrections, Offender Based Tracking System.

The Department of Corrections maintains the Offender Based Tracking System to manage information on offenders in state prisons. Prisoners are felons who have been convicted in a Washington State Superior Court. Most of the prisoners are adults although there are a few juveniles (less than two percent of prison admissions), most of whom were sentenced as adults. This report does not include data for juveniles in prison even if they were sentenced as adults.

The Offender Based Tracking System contains historical and current data at the individual level. Annual data are based on state fiscal year (i.e. data for state fiscal year 1995 are data for the year starting on July 1, 1994 and ending June 30, 1995). The record of each individual includes the county of conviction. The county of conviction is the county where the felon was sentenced. In the case of multiple crimes, the county of conviction is the county where the most serious crime was sentenced.

02 Department of Health, Center for Health Statistics, Vital Statistics Registration System (Death Certificate, Birth Certificate, and Divorce).

The Department of Health, Center for Health Statistics is mandated by the Revised Code of Washington to maintain the state registry of vital statistics. Vital statistics include birth, death, marriage, and divorce. The Vital Statistics Registration System includes historical and current individual level records for the state of Washington.

Birth Certificate: The information for Certificates of Live Birth is reported by midwives, birthing centers, hospitals, and birth attendants. In this report, each birth is assigned to a county based on the mother's zip code and county of residence as reported on the birth certificate. Washington participates in an interstate data exchange agreement which provides the Vital Statistics Registration System with data for Washington residents born in others states (i.e. if a mother lives in Washington, but goes to Oregon to have her baby, the baby is a Washington resident and the birth is allocated to a county based on the residence of the mother). Washington also receives data on Washington residents born in Canada.

Death Certificate: Physicians, medical examiners, and coroners certify the cause of death on Certificates of Death; the certificates are then filed by funeral directors. In this report, each death is assigned to a county based on the zip code and county of residence reported on the death certificate. The county of residence is not necessarily the county where the death occurred. Washington participates in an interstate data exchange agreement which provides the Vital Statistics Registration System with data for Washington residents who die in others states. Washington also receives data on Washington residents who die in Canada.

A single underlying cause of death is reported on every death certificate. The underlying cause of death is coded in accordance with the International Classification of Diseases, Ninth Revision. See Appendix B for more information on how the underlying cause of death is used for the indicator AOD-related Death. For the indicator Adolescent Suicides and Suicide Attempts, the suicide data include all deaths where the underlying cause of death was coded as E950-E959. Data on attempted suicides come from the Comprehensive Hospital Abstract Reporting System (see source 03).

Divorce: Certificates of Dissolution, Declarations of Invalidity of Marriage, or Legal Separation are completed by the clerk of the court, the attorneys, or the petitioners; then the information on the certificate is forwarded by the clerk to the State Registrar. Unlike births and deaths, each divorce in this report is assigned to the county where the legal certificate was issued, not the county of residence. Also, there is no interstate data agreement for divorces, so Washington residents who get married in other states or in Canada are not included in the registry.

Lincoln County does not require Washington couples to appear in court for amicable divorces, which attracts many *absentee* divorces of couples living elsewhere in Washington. As a result, Lincoln County has an extremely high divorce rate.

The data in this report only include dissolutions and annulments. Legal separations (one to two percent of total dissolutions) are not included because they are not final dissolutions of marriages. In a few cases from 1992 to 1995, the decree type was unknown (only 19 for all four years). These cases were included in the data for this report. Some of the unknown decrees could be legal separations, but the impact of their inclusion is probably small for those years. In 1991, a large number of records were of unknown decrees. As a result, an estimated 300 to 400 legal separations (about one percent of total dissolutions) were included in the count of divorces across the state.

03 Department of Health, Office of Hospital and Patient Data Systems, Comprehensive Hospital Abstract Reporting System (CHARS).

The Department of Health, Office of Hospital and Patient Data Systems uses CHARS to keep track of patient discharges from nonfederal hospitals in Washington. CHARS also has records for Washington residents who were discharged from Oregon hospitals (except in 1992); records from other states and Canada are not included in CHARS.

CHARS only captures data for individuals who were admitted and later discharged from nonfederal hospitals. It does not include data on individuals who were treated in outpatient facilities or who were treated in an emergency room but never admitted to the hospital.

CHARS has both historical and current data at the individual level. Each CHARS record includes the patient's zip code and county of residence and describes the reason the patient was admitted to the hospital through diagnosis codes and

external cause codes (E-codes). The codes are in accordance with the International Classification of Diseases, Ninth Revision -- Clinical Modification. Attempted suicides are coded as E950-E959. Data on suicides come from the Vital Statistics Registration System (see source 02), not from CHARS.

04 Department of Health, Sexually Transmitted Disease (STD) Services.

The Department of Health, STD Services is mandated by the Revised Code of Washington to maintain the state registry of sexually transmitted diseases. Known cases are reported to STD Services by doctors, laboratories, clinics, hospitals, health departments, and family planning centers.

The database contains historical and current data at the individual level. Each record includes the zip code and county of residence of the individual.

05 Department of Licensing, Master License Service (data received from Department of Health, Division of Community and Family Health, Tobacco Prevention Program).

The Department of Licensing maintains the Master License Service to keep track of tobacco licenses issued by Washington State. Tobacco shops on reservations and military bases are not licensed by Washington State and therefore are not included in the database. The database is constantly updated; historical records are not saved.

The Department of Licensing sends the Department of Health monthly summaries of the number of tobacco licenses. The summaries contain data aggregated by county. A license is attributed to a county based on the location of the tobacco business. This report uses the monthly summaries for November. Using data for the same month each year provides comparable “snapshots” of tobacco licenses issued. November represents an average month in the year.

06 Department of Social and Health Services, Children’s Administration, Administrative Services, Case And Management Information System (CAMIS).

The Department of Social and Health Services, Children’s Administration, maintains CAMIS to manage data for Child Protective Services, Family Reconciliation Services, Child Welfare System, and case load information. The database contains historical and current data. Zip code and county of residence data are available for each child.

Mandated reporters, such as doctors, nurses, psychologists, pharmacists, teachers, child care providers, social service counselors, employees of the Department of Social and Health Services, and juvenile probation officers, are required by the Revised Code of Washington to notify Child Protective Services if they suspect a child is in danger of negligent treatment, physical abuse, sexual abuse, or other maltreatment. In addition, other concerned individuals may report suspected child abuse cases to Child Protective Services.

A report of suspected child abuse is a referral. If the information provided meets the sufficiency screen, the referral is accepted for intervention. Referrals are not accepted if the referral has no legal basis for complaint, the child cannot be located, the child cannot be identified, or the perpetrator does not live with or care for the child (*third party* case). *Third party* cases are referred to the appropriate law enforcement agency.

A referral (or an accepted referral) may have one or more children identified as *victims*. The data in this report are based on the total number of victims reported in Child Protective Services referrals.

The data in this report only include information taken at the time of the referral. Information on intervention taken was not easily available. As a result, the proportion of the victims identified in accepted referrals that are actual victims of child abuse is unknown.

07 Department of Social and Health Services, Division of Alcohol and Substance Abuse, Client Tracking System, Treatment and Assessment Report Generation Tool (TARGET).

The Department of Social and Health Services, Division of Alcohol and Substance Abuse maintains TARGET to manage data on individuals admitted to state funded alcohol and other drug treatment programs. Admissions to both residential and outpatient programs are included. Individuals admitted to private alcohol and drug treatment programs are not included.

TARGET contains historical and current data at the individual level. The record of each individual includes the zip code of residence.

08 Department of Social and Health Services, Office of Research and Data Analysis, County Population Estimates (controlled to Office of Financial Management County Population Data).

The Department of Social and Health Services, Office of Research and Data Analysis developed yearly County Population Estimates to serve as denominators for rates. The Office of Research and Data Analysis purchased population estimates at the block group level for 1990, 1995, and 2000 from Claritas, a private demographic marketing firm. These estimates were stratified by race, Hispanic ethnicity, gender, and single year of age. The Office of Financial Management has county level population estimates for every year from 1990 to 1994 and state level population estimates for every year from 1995 through 2020. These estimates are reported by race and Hispanic ethnicity, gender, and single years of age for persons birth to 24 and five year age ranges for persons over 24. Both sets of estimates use the 1990 U.S. Census as a benchmark.

The Office of Research and Data Analysis estimated annual block group level populations by subgroup, using an interpolation process on the Claritas data, while controlling to the Office of Financial Management county and state level estimates.

The annual block group population estimates are aggregated to county level estimates stratified by race, Hispanic ethnicity, gender, and single year of age.

09 Department of Social and Health Services, Office of Research and Data Analysis, Needs Assessment Database (NADB).

The Department of Social and Health Services, Office of Research and Data Analysis, maintains NADB to keep track of clients of the Department of Social and Health Services. The Office of Research and Data Analysis constructs NADB by combining extracts from 15 different Department of Social and Health Services automated administrative systems into a single client-centered database. Annual data are based on state fiscal year (i.e. data for state fiscal year 1995 are data for the year starting on July 1, 1994 and ending June 30, 1995).

Clients using more than one service in a state fiscal year are matched and unduplicated using automated rules. Therefore, each client and each service the client received are only recorded once. Foster care data in NADB is extracted from the Social Service Payment Systems (SSPS). Each SSPS record includes data on the location of the field office involved with the child in foster care; the record does not include the residential zip code of the child. NADB uses an automated process to assign the child to a county based on the best geographic information available for that child. In addition to the field office, NADB examines records for all services the child received to determine the best geographic information. Records for services extracted from other databases may include residential zip code data.

In this report, foster care includes both short term crisis placements and longer-term placements with foster families. Some family placements with relatives are also included. No group care placements are included.

10 Department of Social and Health Services, Office of Research and Data Analysis, Population Adjustments for Non-reporting Police Agencies.

The Department of Social and Health Services, Office of Research and Data Analysis, developed population adjustments to compensate for police agencies that did not report arrest data to the Washington Association of Sheriffs and Police Chiefs (see source 28). For each police agency that did not report in a specific year, a population estimate of the number of people served by that agency that year was developed. Police departments serve municipalities (cities and towns) and county sheriff offices serve the unincorporated parts of counties and municipalities without police departments. The estimates of populations served were based on population data from the U.S. Census and from city, town, and county population estimates of the Office of Financial Management. Population estimates were created in age ranges that corresponded to the age ranges used in the arrest data.

The estimate of the population served for each non-reporting police agency was subtracted from the total population of the appropriate county and from the state population. If a police agency reported for part of a year (at least one month, but not 12 months), an appropriate portion of the population served by that agency was

subtracted from the county and state populations. In other words, if a police agency reported three months of data, three-fourths of the population served by that agency would be subtracted from the county and state populations. One-fourth of the served population would remain in the new county and state populations because the agency reported for a quarter of the year.

11 Department of Social and Health Services, Office of Research and Data Analysis, Warrant Roll.

The Department of Social and Health Services uses the Warrant Roll to determine who is eligible for benefits (cash, medical coupons, food stamps) each month and to issue the benefits. The Office of Research and Data Analysis extracted data for the month of April from the Warrant Roll for this report. Although the number of benefits issued varies from month to month, April represents an average month in the year.

The Warrant Roll contains historical and current data at the individual level. The record of each individual includes a zip code of residence. In this report, individuals are unduplicated; each member of a family receiving welfare is counted separately.

There are two types of Aid to Families with Dependent Children (AFDC) grants, regular and employable. Clients who receive regular grants come from poor families with children under 18 (or between 18 and 19 and finishing high school) or low-income single women in the third trimester of pregnancy. The clients are either single-parent families or two-parent families where one parent is unemployable due to disability.

Clients who receive employable grants come from poor two-parent families with children under 18 (or between 18 and 19 and finishing high school) or from families with a woman in the third trimester of pregnancy, in which one or both parents are unemployed. At least one of the parents must have worked recently to qualify the family for this assistance.

In 1988, the Family Independence Program (FIP) was introduced to simplify the application process for AFDC; the program continued until 1993. FIP included both regular and employable grants. In this report, the indicator Children in AFDC includes regular and employable AFDC clients and regular and employable FIP clients where appropriate. Because FIP allowed people to participate in AFDC who would not normally have participated and because the program was implemented in different regions at different times, caution should be used when comparing AFDC data over time or across space.

Clients who receive food assistance (Food Stamps and FIP food cash) are low-income individuals. Food stamps are coupons which can be redeemed for food. FIP grant recipients receive cash instead of coupons. In this report, both food stamps and FIP food cash, where appropriate, are included in the indicator Food Stamp Recipients.

Caution should be used when comparing food stamps data across time or across space. From 1988 to 1993, FIP may have increased the number of participants in food assistance. FIP did not change the eligibility criteria for food assistance, but the program may have encouraged people to participate who would not normally have participated. Also, FIP was implemented in different regions at different times.

Data in this report are different from data published in the *Blue Book* because the data in the *Blue Book* are from the Average Grant Reporting System, not from the Warrant Roll. The data from the Average Grant Reporting System include some corrections that are not available when the Warrant Roll is generated. This report uses Warrant Roll data because the Average Grant data do not include individual level detail at the level needed for the CORE-GIS.

12 Employment Security Department, Labor Market and Economic Analysis, Benefits Automated System (BAS).

The Employment Security Department uses BAS to determine who is eligible for benefits and the amount of benefits the applicant is eligible for. BAS contains information about several types of claims such as initial, continued, and exhausted. Both historical and current data are available at the claimant level. Annual data are based on state fiscal year (i.e. data for state fiscal year 1995 are data for the year starting on July 1, 1994 and ending June 30, 1995).

This report uses summarized data extracted from BAS. For each state fiscal year, people with exhausted unemployment benefits were allocated to counties based on residential zip codes. Thus, the county is the county of residence, not necessarily the county of employment.

Unemployed persons are age 16 and over, actively looking for work, currently available for work, and not working. In this report, exhausted refers to clients who have used up their unemployment benefits.

13 Employment Security Department, Labor Market and Economic Analysis, Local Area Unemployment Statistics (LAUS) Unit.

The Employment Security Department uses LAUS to develop estimates of total employment and unemployment by county. LAUS is based on data from a regular national survey of households supplemented by additional state data (for example, unemployment insurance claims and surveys of business establishments).

Unemployed persons are age 16 and over, actively looked for work, currently available for work, and not working. The civilian labor force includes persons ages 16 and over who are working or are actively looking for work (employed persons plus unemployed persons).

14 Liquor Control Board, *Report of Operations*.

The Liquor Control Board publishes summary data on retail alcohol licenses issued in the state of Washington in the *Report of Operations*. The data come from the

financial system of the Liquor Control Board and are annual summaries based on the state fiscal year (i.e. data for state fiscal year 1995 are data for the year starting on July 1, 1994 and ending June 30, 1995). Historical records are not saved electronically. Each license is assigned to a county based on the location of the business. Retail alcohol facilities on reservations and military bases are not licensed by Washington State and, therefore, are not included in the data.

15 Office of the Administrator for the Courts, Juvenile Information System (JUVIS).

The Office of the Administrator for the Courts maintains JUVIS to manage information on juvenile offenders. JUVIS contains historical and current data at the individual level. The county of adjudication is recorded in JUVIS for each adjudication.

The data in this report is unduplicated by guilty adjudication incident. A single guilty adjudication can pertain to multiple crimes. In this report, a single guilty incident would be counted once regardless of how many crimes were involved. If a juvenile is adjudicated more than once during a year each guilty incident is counted separately.

This report includes adjudications for all juveniles (ages 0 to 17). However, the denominator for Guilty Adjudications of Juveniles is juveniles ages 10 to 17 because the vast majority of guilty adjudications are for juveniles ages 10 to 17.

16 Office of Superintendent of Public Instruction, Child Nutrition, Free and Reduced Price Eligibility.

The Office of Superintendent of Public Instruction, Child Nutrition, maintains records on Free and Reduced Price Eligibility for a federally funded program that provides free and reduced price lunches to students. Children are eligible for free lunches if their family income is at or below 130% of the federal poverty level or for reduced price lunches if their family income is at or below 185% of the federal poverty level. The data files contain counts of the number of students in public school who applied and were accepted for free and reduced price lunch by school district. Public school students who are accepted through letters of direct certification are also included. Annual data are based on the school year (i.e. 1995 data are data for the school year starting in the fall of 1995).

A few school districts do not participate in the federal free and reduced lunch program. In counties where school districts do not participate, low rates for the indicator Free and Reduced Lunch Program may underestimate the eligibility rate of students in that county.

17 Office of Superintendent of Public Instruction, Information Services.

The Office of Superintendent of Public Instruction, Information Services maintains data on enrollment. In October, each school in Washington State submits enrollment data to the Office of Superintendent of Public Instruction. The data

record the unduplicated number of students enrolled in each grade on the first of October. The data are available aggregated by school district. This report uses the public school October enrollment data. The annual data are based on the school year (i.e. 1995 data are data for the school year starting in the fall of 1995).

18 Office of Superintendent of Public Instruction, Information Services (in the future contact Washington State Board for Community & Technical Colleges).

This report received data on the number of people receiving their General Educational Development (GED) certificate from the Office of Superintendent of Public Instruction, Information Services, but in the future, all data inquires should be directed to the Washington State Board for Community & Technical Colleges.

The GED testing centers report data on individuals who qualify to receive GED certificates (passed five tests: writing, literature and arts, social studies, science, and math) to the Board for Community & Technical Colleges. The Board's database contains historical and current data at the individual level. The record of each individual includes a residential zip code.

19 Office of Superintendent of Public Instruction, Instructional Programs, Curriculum and Assessment, Washington State Assessment Program.

The Office of Superintendent of Public Instruction, Instructional Programs, Curriculum and Assessment maintains data for the Washington State Assessment Program. Each fall, the Washington State Assessment Program collects information about student achievement in fourth and eighth grade through the Comprehensive Tests of Basic Skills, 4th edition. Most students take the test although some students may not take it because of absence, enrollment in Special Education, limited English skills, or other special circumstances.

The database includes both current and historical data. The data for this report were provided aggregated by school district for each school year (i.e. 1995 data are data for the school year starting in the fall of 1995). Some school districts do not have any students enrolled in one or both grades. The "Battery" test includes the reading, language, and math subtests.

20 Office of Superintendent of Public Instruction with Department of Health and Department of Social and Health Services, *Washington State Survey of Adolescent Health Behaviors* (WSSAHB), December 1995 (school survey).

The 1995 WSSAHB, which has evolved since 1988, was the fourth biennial survey of health risk behaviors among Washington students. The contractor, RMC Research Corporation worked with the Office of Superintendent of Public Instruction, the Department of Health, and the Department of Social and Health Services on the development of the survey. The University of Washington Social Development Research Group provided consultation on the risk and protective factor portion of the survey.

A random sample of schools, stratified by district size and region, was selected at each grade level to constitute a representative sample of students in grades 6, 8, 10, and 12. Some schools refused to participate in the survey. If a school refused to participate, a comparable school was asked to participate in its place. The survey was designed to produce estimates of risk and protective factors at the state and the regional level (see Chapter 4), not at the county or school district level. The students in the sixth grade participate in a shorter survey. They were excluded from this report because they did not receive all of the questions needed to develop the risk and protective factor measures.

21 Office of the Secretary of State, Elections Division, Certified Election Results.

The Office of the Secretary of State, Elections Division maintains data on Certified Election Results. Both historical and current data are available for the November Washington State General Elections. Data on registered voters and on votes cast are available aggregated by county.

22 Sentencing Guidelines Commission, Adult Felony Database. Data provided by the Washington State Sentencing Guidelines Commission. Analysis and interpretation of the data are the sole responsibility of the authors.

The Sentencing Guidelines Commission maintains the Adult Felony Database to monitor adult felony sentences. There are a few juveniles, most of whom were sentenced as adults, included in the Adult Felony Database. This report does not include juveniles in sentencing data even if they were sentenced as adults.

The Adult Felony Database contains historical and current data at the individual level. The record of each individual includes a county of conviction. The county of conviction is the county where the felon was sentenced.

23 State Patrol, Identification and Criminal History Section, Criminal History Database.

The State Patrol is mandated by the Revised Code of Washington (RCW) to manage a Criminal History Database. The database contains historical and current data at the individual level. Any adult arrested in Washington for a gross misdemeanor or a felony should be included in the database if the person was booked and fingerprinted. The State Patrol is not mandated to maintain data on juveniles or data on individuals arrested for misdemeanors, but the database does include some of these type of records. Because the database does not include all juvenile arrests or all arrests for misdemeanors, juvenile arrests and arrests for misdemeanors are not included in this report. For some arrests in the database, the crime was identified, but the crime class (felony, gross misdemeanor, misdemeanor) was not. Most of these crimes are probably gross misdemeanors, so they are included in this report.

Each arrest record includes an arresting or booking agency. An agency can be a police department, which serves a municipality (city or town), or a county sheriff's department, which serves the unincorporated parts of a county and the

municipalities without police departments. In some counties, the county sheriff's office is responsible for reporting all data to the State Patrol and is recorded as the booking agency regardless of where the initial arrest occurred. In other counties, each arresting agency forwards the data to the State Patrol and is recorded as the arresting agency. As a result, the data cannot be easily reported at geographic levels below the county, but data from arresting and booking agencies are easily aggregated to the county level.

If a crime is associated with domestic violence, then it is coded as a domestic violence crime in the Criminal History Database. In other words, a domestic violence-related assault is coded differently from an assault that is not related to domestic violence. Domestic violence is defined in the RCW and includes any violence by one family member against another family member. Family can include spouses, former spouses, parents who have a child in common regardless of their marital status, adults who live in the same household, and parents and children.

The Office of Research and Data Analysis unduplicated the data from the Washington State Patrol by "arrest incident." Thus, if a person appeared in the Criminal History Database more than once on a single day, the person was counted only once (one arrest incident). If a person was arrested on more than one day, then the person was counted each time (two or more arrest incidents).

24 State Patrol, Records Section, Accident Records Database (data received from Traffic Safety Commission, Traffic Records Data Center, *Traffic Collisions in Washington State: Data Summary and Highway Safety Problem Analysis*).

The Revised Code of Washington mandates that the State Patrol maintain an Accident Record Database which includes all collisions on public trafficways that result in an injury, death, or property damage over $500. Each accident record includes the city and county where the collision occurred. In this report, the fatalities are allocated to a county based on the location of the accident not the residence of the individuals involved.

Fatal accidents are a subset of all traffic accidents, and alcohol-related fatal accidents are a subset of fatal accidents. Alcohol-related fatalities include fatalities where a driver (not necessarily the victim) involved in the accident "had been drinking," as determined by the officer on the scene. An individual does not have to be legally drunk (have a blood alcohol level of .01) to be counted as "had been drinking."

This report used data from *Traffic Collisions in Washington State: Data Summary and Highway Safety Problem Analysis*, a report published by the Traffic Safety Commission, Traffic Records Data Center. The report contains data on traffic fatalities and alcohol-related traffic fatalities summarized at the county level.

OTHER SOURCES

25 U.S. Bureau of Economic Analysis, Regional Economic Information System (REIS).

The U.S. Bureau of Economic Analysis publishes data on personal income and employment through the Regional Economic Information System. The data are available for the entire country and are updated annually. The data in this report were downloaded from a Regional Economic Information System site on the internet.

26 U.S. Census, Summary Tape File (STF) 1A.

STF1A provides data and statistics based on the *short* form or the *100-percent* form of the 1990 U.S. Census. Questions on the *short* form were asked of all persons and housing units in the United States; the questions related to basic demographic and housing information (for example, race, age, marital status, housing value, or rent). STF1A data are available aggregated to the census block or the county level.

27 U.S. Census, Summary Tape File (STF) 3A.

STF3A provides data and statistics based on the *long* form or the *sample* form of the 1990 U.S. Census. Questions on the *long* form were asked of a sample of the population and housing units. Additional questions provided more detail than the *short* form and pertained to income, occupation, and housing costs in addition to the basic demographic and housing information. The STF3A data are estimates of the actual figures that would have been obtained if all persons and housing units had responded to the *long* form. STF3A data are available aggregated to the census block group level.

28 Washington Association of Sheriffs and Police Chiefs (WASPC), Uniform Crime Reporting (UCR) Database and Seattle Police Department Annual UCR Data.

The UCR Program was initially developed to help the Federal Bureau of Investigation (FBI) collect national statistics on crime. Law enforcement agencies throughout the country voluntarily submit crime data to the FBI; the FBI provides instructions and report forms to ensure the data are recorded in a uniform manner. UCR data included data on offenses, arrests, homicides, and law enforcement officers killed or assaulted.

In Washington, law enforcement agencies voluntarily submit UCR data to WASPC. WASPC then forwards the data to the FBI. Law enforcement agencies include police departments for municipalities and county sheriff offices for unincorporated parts of counties and for municipalities without police departments. Most agencies that submit data, do so monthly; the Seattle Police Department submits annual summaries instead. Some agencies do not provide any data to WASPC or provide less than a full year's worth of data. Agency participation varies from year to year.

Non-reporting affects the data in this report. Numerators (the number of arrests) are not comparable across time because the police agencies that report within in a county may not be the same from year to year. In other words, if all the police agencies in a county report a full year of data in 1990, but one agency does not report any data in 1991, then the 1990 and the 1991 arrests cannot be compared because the 1991 arrests are missing the arrests of one agency.

In this report, the population denominators were adjusted to compensate for non-reporting. If a police agency did not report any data, then the population under the jurisdiction of that agency was removed from the denominators (see source 10) of both the county and the state. This adjustment makes it possible to compare the rates of arrests from year to year. Nevertheless, extreme caution should be used when interpreting the arrest data. Comparison of the rates from year to year assumes that the data of the reporting agencies are representative of the data for the county as a whole. If a large percentage of the population of a county is under the jurisdiction of non-reporting agencies, then the data of the reporting agencies may not be representative of the population of the entire county. Appendix I shows counties for which reported arrest rates were based on less than 80 percent of the population of the county.

Most reservations have tribal police departments. A few tribal police departments report to WASPC, but most do not. Some tribal police departments work closely with the sheriff's office and report data through the sheriff's office, but some do not. There was no easy way to determine which tribal police departments reported data indirectly (through another law enforcement agency) to WASPC from 1990 to 1993. As a result, the reservation population was subtracted from the denominator for any tribal police department that did not report to WASPC, except for the Puyallup Reservation. The vast majority of people who reside on the Puyallup Reservation are under the jurisdiction of local city and county police agencies, so they were not removed from the denominator. If a town on a reservation had its own police department that reported, but the tribal police did not report, the town was included in the denominator, but the rest of the reservation was removed from the denominator.

If a person is arrested once for multiple crimes, only the most serious crime is counted for UCR data. If a person is arrested multiple times, each arrest is counted under the most serious crime for that arrest. If two or more people are arrested for one crime, each person is counted as an arrest. Arrest data are reported by the location of the arrest, not the residence of the person arrested. The arrest data are a measure of the number of people arrested; they are not a measure of the number of crimes committed or the number of charges lodged.

The Seattle Police Department does not report juvenile arrests for Driving Under the Influence (DUI). For the indicator Juvenile Arrests for Alcohol Violations, the Seattle juvenile population was removed from the denominator. The Seattle juvenile population was not removed from any other arrest denominators.

Arrests by the State Patrol cannot be allocated to counties. A significant percentage of Washington arrests for DUI (41 percent of adult DUI arrests) are reported by the State Patrol. The State Patrol DUI arrests are not included in the

state total in this report because all county comparisons to the state rate would appear too low. This affects three indicators: Adult Drunken Driving Arrests, Adult Alcohol-related Arrests, and Juvenile Arrests for Alcohol Violations. The State Patrol does not report a significant percentage of Washington arrests for any other crime. Therefore, for all other crimes, any arrest made by the State Patrol is included in the state data.

29 Washington Center for Real Estate Research, Washington State University, *Washington State's Housing Market: A Supply/Demand Assessment*.

The Washington Center for Real Estate Research publishes *Washington State's Housing Market: A Supply/Demand Assessment* quarterly. The report contains data regarding home sales, housing affordability, residential building permits, and housing inventories aggregated by county.

The data on existing home sales are estimates of the number of homes that are being resold (i.e. new homes are not included). The data are based on information from multiple listing services, firms that monitor deeds, and local realtors associations. The Washington Center for Real Estate Research collects data on the number of residential building permits from the U.S. Department of Commerce, C-40 Reports. A separate building permit is issued for each unit in a multifamily complex (ex. each apartment in an apartment building). Thus, permits for large multifamily complexes can cause a huge swings in the number of residential building permits issued from year to year.

APPENDIX B: COUNTING AOD-RELATED DEATHS

Alcohol- or drug-related deaths are identified by matching the underlying cause of death from death certificate records to a list of causes that are considered AOD-related. The deaths identified as AOD-related then may be summed to provide county and state totals. Dividing the total AOD-related deaths by all deaths in a county or state gives the percent of all deaths that are alcohol and drug related.

Lists of underlying causes of death that are AOD-related have been developed in several studies (see first three in list below). AOD-related deaths used in this report are determined using a comprehensive assembly of disease, accident, and injury codes identified in those studies. The codes are based upon the *International Classification of Diseases*, Ninth Revision (ICD-9).

The identified AOD-related causes of death may be either fully attributable or sometimes attributable to alcohol or drugs. Some underlying causes of death are explicit in their mention of alcohol or drugs. Examples include alcoholic cirrhosis of the liver (ICD-9 code 571.2), alcohol and drug dependence syndromes (ICD-9 codes 303 and 304, respectively), and drug poisonings (ICD-9 codes E850 through E859). All deaths of this sort are fully, or 100%, attributable to alcohol or drug abuse and are considered AOD-related deaths.

Other underlying causes of death are related only sometimes to alcohol or drugs. For example, epidemiological studies have shown that, among persons over 35 years of age, 60% of deaths due to chronic pancreatitis (ICD-9 code 577.1) and 75% of malignant neoplasms of the esophagus (ICD-9 code 150) are alcohol-related. For persons of all ages, 42% of motor vehicle traffic and nontraffic deaths (ICD-9 codes E810 through E825) are alcohol-related. The appropriate percentage of such indirectly attributable deaths are also counted toward totals for AOD-related deaths.

Table B-1 on the following page characterizes the different diseases, injuries, and accidents by: name, ICD-9 code, percent attributable to alcohol or drugs, age of inclusion, percent of all AOD-related deaths, and source of information. Information sources are listed according to the numbers given below.

1. Schultz J, Rice D, & Parker D. 1990. Alcohol-related mortality and years of potential life lost - United States, 1987. *Morbidity and Mortality Weekly Report*, 39, 173-178.

2. Rice D, et al. 1990. *The Economic Costs of Alcohol and Drug Abuse and Mental Illness: 1985*. Report submitted to the Office of Financing and Coverage Policy of the Alcohol, Drug Abuse, and mental health Administration, U.S. Department of Health and Human Services. San Francisco, CA: Institute for Health and Aging, University of California.

3. Fox K, Merrill J, Chang H, & Califano J. 1995. Estimating the Costs of Substance Abuse to the Medicaid Hospital Care Program. *American Journal of Public Health*, 85(1), 48-54.

4. Seattle-King County HIV/AIDS Epidemiology Unit and Washington State Office of HIV/AIDS Epidemiology and Evaluation. 1994. *Washington State/Seattle-King County HIV/AIDS Epidemiology Report (2nd Quarter, 1994)*, p. 4.

Table B-1. Categories and Criteria for Calculating Alcohol and Drug-related Deaths

Disease Category	ICD-9 Code	Percent of Deaths Attributable to AOD	Age of Inclusion	Percent of All AOD Deaths 1990-1994	Source
Diseases directly attributable to alcohol					
Alcoholic psychoses	291	100%	>=15	0.56%	1
Alcohol dependence syndrome	303	100%	>=15	4.08%	1
Alcoholic polyneuropathy	357.5	100%	>=15	0.01%	1
Alcoholic cardiomyopathy	425.5	100%	>=15	0.96%	1
Alcoholic gastritis	535.3	100%	>=15	0.11%	1
Alcoholic fatty liver	571.0	100%	>=15	0.61%	1
Acute alcoholic hepatitis	571.1	100%	>=15	1.13%	1
Alcoholic cirrhosis of the liver	571.2	100%	>=15	9.14%	1
Alcoholic liver damage, unspecified	571.3	100%	>=15	2.61%	1
Excessive blood level of alcohol	790.3	100%	>=15	0.00%	1
Accidental poisoning by alcohol	E860.1, E860.2, E860.8, E860.9	100%	>=15	0.20%	3
Diseases indirectly attributable to alcohol					
Neoplasms					
Breast	174.0-174.9, 233.0	13% F	>=35	4.81%	3
Esophagus	150.1-150.9, 230.1	75%	>=35	7.28%	1
Larynx	161.0-.161.9, 231.0	50% M, 40% F	>=35	1.23%	1
Lip, oral cavity, pharynx	140.1-141.9,143.0-149.9,230.0	50% M, 40% F	>=35	3.06%	1
Liver	155.0-155.2, 230.8	29%	>=35	2.39%	3
Cardiovascular					
Cardiomyopathy	425.1, 425.4, 425.9	40% M	>=35	4.12%	3
Hypertension	401.0-404.9, 642.0, 642.2, 642.9	11%	>=35	2.77%	3
Digestive System					
Cirrhosis	571.5	74%	>=35	4.71%	1
Duodenal Ulcers	532.0-532.9	10%	>=35	0.17%	1
Pancreatitis, acute	577.0	47%	>=35	0.72%	1
Pancreatitis, chronic	577.1, 577.2, 577.9	72%	>=35	0.19%	1
Other					
Epilepsy	345.1, 345.3, 345.9	30%	>=15	0.45%	3
Seizures	780.3	41%	>=15	0.12%	3
Tuberculosis	011-013, 017, 018	25%	>=15	0.16%	3
Other (Schultz, Rice, & Parker 1990)					
Motor vehicle traffic and non-traffic accidents	E810-E825	42%	>=0	15.58%	1
Pedal cycle and other road vehicle accidents	E826, E829	20%	>=0	0.02%	1
Water transport accidents	E830-E838	20%	>=0	0.35%	1
Air & space transport accidents	E840-E845	16%	>=0	0.27%	1
Accidental falls	E880-E888	35%	>=15	4.89%	1
Accidents caused by fire and flames	E890-E899	45%	>=0	1.20%	1
Accidental drowning and submersion	E910	38%	>=0	1.55%	1
Suicide and self-inflicted injury	E950-E959	28%	>=15	9.45%	1
Homicide & other purposely inflicted injury	E960-E969	46%	>=15	5.65%	1
Other	E901, E911, E917-E920, E922, E980	25%	>=15	1.48%	1
Diseases directly attributable to drugs					
Drug psychoses	292	100%	>=15	0.00%	2
Drug dependence syndrome	304	100%	>=15	0.11%	2
Polyneuropathy due to drugs	357.6	100%	>=15	0.00%	3
Drug dependence during pregnancy	648.3	100%	>=15	0.00%	3
Suspected damage to fetus from drugs	655.5	100%	>=15	0.00%	3
Noxious influences affecting fetus	760.7	100%	>=15	0.01%	3
Drug reactions, intox., withdrawal specific to newborn	779.4, 779.5	100%	>=15	0.00%	3
Selected drug poisonings	962, 965,967-971, 977	100%	>=15	0.00%	3
Selected accidental drug poisonings	E850-854, E858.0, E858.8, E858.9	100%	>=15	5.56%	3
Diseases indirectly attributable to drugs					
AIDS (from IV drug use exposure)	042.0-044.9	5%	>=15	1.13%	4
Cardiovascular					
Endocarditis	421.0, 421.9	75%	>=15	0.52%	3
Other					
Hepatitis A	70.1	12%	>=15	0.01%	3
Hepatitis B	70.2, 70.3	36%	>=15	0.46%	3
Hepatitis C	70.5, 70.9	10%	>=15	0.17%	3

APPENDIX C: SELECTED STUDIES IDENTIFYING RISK FACTORS FOR SUBSTANCE ABUSE

The model of risk and protective factors for chemical dependency prevention presented in this series of reports is based on the work of J. David Hawkins, Richard Catalano and their team of researchers at the University of Washington. In the early 1980s, they reviewed and organized thirty years of research on factors influencing adolescent drug abuse (Hawkins, Lishner and Catalano 1985) and delinquency (Hawkins, Lishner, Jenson and Catalano (1987). The team has conducted subsequent research on risk factors for violence, and has periodically published new reviews in which they have incorporated new research and refined their organizing framework (Hawkins, Catalano and Miller 1992; Hawkins, Arthur and Catalano 1995). The table below briefly presents some of their research.

RISK FACTOR	STUDY	FINDINGS
Individual and Peer Domain		
ALIENATION AND REBELLIOUSNESS	Jessor & Jessor, 1977; Kandel, 1982; Jessor et al., 1980; Robins, 1980; Penning & Barnes, 1982	Alienation from dominant societal values and low religiousity were positively associated with drug use.
	Smith & Fogg, 1978; Bachman, Johnson, & O'Malley, 1981; Kandel, 1982	Rebelliousness and resistance to traditional authority were positively associated with drug use.
	Jessor, 1976; Jessor & Jessor, 1977; Paton & Kandel, 1978	High toleration of deviance, resistance to authority, strong need for independence, and "normlessness" were associated with drug use.
	Shedler & Block, 1990	Interpersonal alienation at age 7 predicted frequent marijuana use at age 18.
FRIENDS WHO USE	Kandel, 1978, 1986; Jessor et al., 1980; Barnes & Welte, 1986; Kandel & Andrews, 1987; Brook et al., 1990	Peer use of substances was among the strongest factors associated with substance use among youth.
	Newcomb & Bentler, 1986; Gillmore et al., 1990	Influence of peers on drug use was stronger than that of parents for non-Hispanic Whites, African-Americans, Asians, and Hispanics.
	Harford, 1985	Non-drinking African-American youths reported fewer drinking friends than did African-American youth who drank.
	Brook et al., 1990, 1992	The most powerful linkage in the causal pathway to marijuana non-use was association with non-drug-using peers.
ATTITUDES FAVORABLE TO DRUG USE	Kandel et al., 1978; Smith & Fogg, 1978; Krosnick & Judd, 1982; Johnston, 1991	Initiation into substance use was preceded by values favorable to its use.
EARLY ONSET OF DRUG USE	Rachal et al., 1982; Kandel, 1982; Robins & Pryzbeck, 1985	Problem drinkers began drinking earlier than users; earlier onset of drug use was associated with greater and more persistent use of more dangerous drugs.
	Kandel et al., 1976	Later onset of drug use predicted lower drug involvement and higher probability of discontinuation of use.
CONSTITUTIONAL FACTORS	Cloniger et al., 1988; Zuckerman 1987	Sensation-seeing & low-harm avoidance predict early-onset alcoholism.

RISK FACTOR	STUDY	FINDINGS
Community Domain		
AVAILABILITY OF ALCOHOL AND OTHER DRUGS	Gorsuch & Butler, 1976	Increased alcohol availability preceded increases in drinking prevalence, amount of alcohol consumed, and heavy drinking.
	Maddahian, Newcomb & Bentler, 1988; Gottfredson, 1988; Dembo et al., 1979.	Availability affected the use of alcohol and illegal drugs.
LAWS AND NORMS		
TAXATION	Levy & Sheflin, 1985	A one-dollar increase in tax on alcohol preceded a one-half percent decrease in consumption.
	Cook & Tauchen, 1982	An increase in the alcohol tax preceded a sharp decrease in consumption and cirrhosis mortality.
	Saffer & Grossman, 1987	Higher taxes were associated with lower teen drinking and fatalities, and were more salient than drinking age.
HIGHER LEGAL DRINKING AGES	Joksch, 1988; Saffer & Grossman, 1987; Krieg, 1982; Cook & Tauchen, 1982	Higher drinking age was associated with fewer teenage traffic fatalities and citations for driving while intoxicated.
CRIMINAL LAWS MAKING DRUGS ILLEGAL	Polich et al., 1984	Neither doubling of interdiction nor increased arrests of drug dealers affect retail prices or availability of illegal drugs.
	Goldstein & Kalant, 1990	Prohibition reduced alcohol consumption substantially.
CULTURAL NORMS	Flewelling et al. 1992; Flasher & Maisto, 1984; Robins, 1984; Vaillant, 1983	Alcohol and illegal drug consumption are associated with differences in race, ethnicity, country of origin and degree of acculturation into the United States
	Johnston, 1991	Changes in nationwide norms regarding the acceptability and harmfulness of marijuana and cocaine preceded changes in prevalence.
	Atkin, Hocking & Black, 1984	Teens reporting higher drinking levels had more exposure to ads promoting alcohol.
NEIGHBORHOODS WITH HIGH TRANSITIONS AND MOBILITY	Fagan, 1988	
LOW NEIGHBORHOOD ATTACHMENT AND COMMUNITY DISORGANIZATION	Sampson, 1986; Herting & Guest, 1985; Fagan, 1988	Children who grow up in disorganized neighborhoods were more likely to abuse drugs and be involved in drug trafficking.
	Brook, Nomura, & Cohen, 1989	Self-reports of low neighborhood attachment were associated with increased substance use indirectly, through more proximal school, peer and family variables.
EXTREME ECONOMIC DEPRIVATION	Murray et al., 1987; Robins & Ratcliff, 1979	Living in neighborhoods where most people are very poor and deprived is associated with higher use of illegal drugs.

RISK FACTOR	STUDY	FINDINGS
Family Domain		
FAMILY HISTORY OF CHEMICAL DEPENDENCY	Schuckit & Rayes, 1979; Schuckit et al., 1983; Schuckit, 1980,1987.	After administration of alcohol, the children of alcoholics had different muscle, serum prolactin, and other physical responses than did the children of non-alcoholics
	Pollock et al., 1983	There were differences in brain-waves between children of alcoholics and non-alcoholics.
	Goodwin, 1985	About half of hospitalized alcoholics had a family history of alcoholism.
	Kandel et al., 1978, 1986; McDermott, 1984.	Parental and sibling use of illicit drugs was associated with higher risk of drug use initiation and drug abuse in children.
	Ahmed et al., 1984	Importance of drug in household was best predictor of children's expectations to use and actual use of alcohol, tobacco and marijuana.
	Hansen et al., 1987	Parental modeling was directly related to friend's use of drugs, which in turn was related to adolescent's drug use.
	Brook et al., 1988	Oldest brothers and parents had independent effects on younger brother's use.
	Brook et al., 1990	Father's non-drug use and emotional stability enhanced effects of peer non-drug use.
	McDermott, 1984; Hansen et al., 1987; Barnes & Welte, 1986	Perceived parent permissiveness toward alcohol and other drugs had a greater impact upon adolescent use than did actual parental use of alcohol or other drugs.
FAMILY MANAGEMENT PRACTICES	Kandel & Andrews, 1987; Baumrind, 1983; Penning & Barns, 1982	Lack of or inconsistent parental discipline and low parent educational aspirations for children were associated with initiation into drug use.
	Ziegler-Driscoll, 1979; Kaufman & Kaufman, 1979	Over-involvement by one parent accompanied by distance or permissiveness by the other was associated with increased risk of drug use
	Baumrind, 1983	Parent authoritativeness was associated with children's prosocial, assertive behaviors. Parent non-directiveness and permissiveness were associated with high drug use.
	Reilly, 1979	Common characteristics of families of adolescent drug abusers were: negative communication patterns; inconsistent, unclear behavior limits; and unrealistic parental expectations.
FAVORABLE PARENTAL ATTITUDES AND DRUG INVOLVEMENT	Tec, 1974	Parental drug use in an unrewarding family structure was more linked to marijuana use than parental drug use in a rewarding family structure.
	Brook et al., 1990	Parent adolescent attachment was associated with less marijuana use. Psychological stability of mothers offsets peer drug use.
	Shedler & Block., 1990	Quality of mother's interactions with 5-year-olds was related to marijuana use at 18.

RISK FACTOR	STUDY	FINDINGS
Family Domain *(continued)*		
LOW BONDING TO FAMILY	Kandel et al., 1978; Brook et al., 1992; Braucht et al., 1978; Penning & Barnes, 1982; Kandel & Andrews, 1987	Lack of parent-child closeness and lack of maternal involvement were associated with drug use initiation.
	Elliott et al., 1985; Brook et al., 1990	Family bonding interacts with peer variables to influence drug use.
	Gorsuch & Butler, 1976; Jessor & Jessor, 1977; Kim 1979; Brook et al., 1986; Selnow, 1987; Hundelby & Mercer, 1987	Family involvement and attachment were associated with lower levels of drug initiation and drug use.
FAMILY CONFLICT	Robins, 1980; Penning & Barnes, 1982; Baumrind, 1983	Children from homes broken by marital discord were at higher risk of drug use.
	Simcha-Fagan, Gersten & Langer, 1986	Family conflict was a stronger predictor of drug use than family structure (intact parental marriage).
	Needle, Su & Doherty, 1990	Parental divorces occurring during childhood were less associated with adolescent drug use than parental divorces occurring during adolescence.
School Domain		
ACADEMIC FAILURE	Jessor, 1976; Smith & Fogg, 1978; Robins 1980	Failure in school was associated with adolescent drug abuse, as well as initiation and level of drug use.
	Hundleby & Mercer, 1987	Good school performance was associated with reduced likelihood of frequent drug use in ninth graders.
LOW COMMITMENT TO SCHOOL	Johnston, O'Malley & Bachman, 1985	The use of a variety of drugs is significantly lower among students expecting to attend college.
	Kelley & Balch, 1971	How much students like school is associated with levels of drug use.
	Friedman, 1983	Time spent on homework and perception of the relevance of course work are associated with levels of drug use.
EARLY AND PERSISTENT PROBLEM BEHAVIORS	Brook et al., 1990	Irritable, distractible children who fight, have tantrums, or engage in pre-delinquent acts are more likely to use drugs as teenagers.
	Lerner & Vicary, 1984	"Difficult" temperament in 5-year-olds contributes to drug problems in adulthood.
	Lewis et al., 1985; Loeber 1988	Aggressiveness in boys 5-7 predicts frequent teenage drug use and other behavioral problems.

APPENDIX D: EMPIRICAL RESEARCH SHOWING THE EFFECTS OF PROTECTIVE FACTORS

PROTECTIVE FACTOR	STUDY	FINDINGS
INDIVIDUAL CHARACTERISTICS	Radke-Yarrow & Sherman, 1990; Rutter, 1990	Resilient temperament, positive social orientation, intelligence and skills buffered children against risk factors.
BONDING AND ATTACHMENT TO FAMILY	Brook et al., 1990	Both attachment to parents and attachment to fathers buffered substance abuse risk and enhanced other protections.
	Gorsuch & Butler, 1976; Jessor & Jessor, 1977; Kim, 1979; Brook et al., 1986; Selnow, 1987; Hundelby & Mercer, 1987	Family involvement and attachment were associated with lower levels of drug initiation and drug use.
BONDING AND ATTACHMENT TO OTHERS WHO SUPPORT NON-USE	Garmezy, 1985; Werner, 1989	Social supports from teachers, other adults and peers which both (1) reinforced the individual's competence and (2) supported non-drug use were associated with lower drug use.
HEALTHY BELIEFS AND CLEAR STANDARDS	Hansen & Graham, 1991	Norms, beliefs or standards which oppose the use of illegal drugs or alcohol by teenagers were associated with less use.

APPENDIX E: HISTORY OF SUBSTANCE ABUSE PREVENTION IN WASHINGTON STATE

The Division of Alcohol and Substance Abuse (DASA) that exists today has been administering prevention services since its inception in 1978 (though DASA's title prior to 1989 was the Bureau of Alcohol and Substance Abuse, or BASA). Before 1978 (prior to the establishment of a separate entity to address substance abuse services), prevention services planning and administration was managed by the Department of Social and Health Services' Office of Drug Abuse Prevention and the Governor's Office of Drug Abuse Prevention.

1978 - 1985. From 1978 through1985, substance abuse prevention services were developed and administered primarily from state funds and competitive federal project resources. The federal resources moved from competitive in nature to a block grant format in the early 1980s under the Reagan Administration. This block grant mandated a 20% set aside for primary prevention services from the total federal funding received for all substance abuse services. DASA worked with program developers to establish youth-focused strategies. Such strategies were implemented, for the most part, in school settings.

As public funds were limited at this time, DASA collaborated closely with the Office of the Superintendent of Public Instruction and Washington Traffic Safety Commission to share funds and strategy ideas.

During this time, DASA had established a contractual relationship with County Governments to manage prevention services at the local level.

1986 - 1992. In 1986, President Reagan declared a new "War on Drugs" in America, a declaration previously announced by President Nixon in the early 1970s. As a result of President Reagan's declaration and persuasion, Congress passed the 1986 Federal Omnibus Drug Act.

The Federal Block Grant defined in the Omnibus Drug Act dramatically increased the primary prevention resources allocated to states through the federal block grant process. Funding was also increased to schools, K-12 and Higher Education, and to communities through the development of the Drug Free Schools and Communities Programs.

As a result of the "War on Drugs", the Department of Health and Human Services created the Office of Substance Abuse Prevention (OSAP), now the Center for Substance Abuse Prevention. OSAP funded demonstration programs to states and local communities on a competitive basis. It is through these demonstrations, as well as the federal block grant to states, that the prevention field began to grow and develop new technologies and strategies to address the prevention needs in our country.

DASA established a prevention system infrastructure in Washington State with the new resources which retained the county government contracting process as the primary mechanism to provide community-based programs. In addition to the county-based services, federal resources were used to develop statewide programs (establishment of

a clearinghouse, conferences, training, and newsletters) which supported the county programs.

In order to support the infrastructure created, DASA encouraged county governments to hire county prevention specialists to manage the resources. DASA then was in a position to provide technical assistance and training to the local prevention specialists, and encourage them to mobilize their communities to prevent substance abuse problems. Most of the efforts at this time were focused on community organization and youth education.

In the late 1980s, a review and synthesis of research examining risk and protective factors for adolescent substance abuse and other problem behaviors was compiled by Professors J. David Hawkins and Richard Catalano at the University of Washington. Based upon the success and promise of this research, DASA began to adopt a risk and protective factor framework for primary prevention planning in the early 1990's. Complementing the new direction, a federal demonstration grant was secured from CSAP to pilot a planning process throughout the state.

1993 - Present. In 1993, DASA changed their contracting practices with counties and direct service providers. The change moved contractors from prioritizing programs and strategies to prioritizing risk factors associated with adolescent substance abuse. Once the risk factors were prioritized, the proposed prevention strategies were required to address high-priority risk factors and to also include the enhancement of protective factors. Counties were also asked to evaluate their strategies to address the question of "What Works?"

During the 1995-97 biennium, DASA began to prepare the county prevention specialists for the development of a county prevention action plan, grounded in the risk and protective factor framework and conducive to conducting viable outcome and process evaluation.

APPENDIX F - COMMUNITY OUTCOME AND RISK EVALUATION INDICATORS (CORE-GIS)

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Availability of Drugs				
Alcohol retail licenses	WSLCB - Annual Operations Report Alcohol Outlet Data	County	1988	1994
Tobacco retailer licenses	DOL - (Master License Service) Tobacco Statistics (from DOH(DCFH/TPP))	County	1993	1995
Tobacco vending machine licenses	DOL - (Master License Service) Tobacco Statistics (from DOH(DCFH/TPP))	County	1993	1995
Community Laws & Norms Favorable to Crime & Drugs				
Average sentence (prison and service) for adult felony drug offenders	SGC - (Adult Felony Database) Length of prison sentence data	County	1988	1995
Low Neighborhood Attachment & Community Disorganization				
People registered to vote	OSS(Election Division) - (Certified Election Results) Registered Voters Tables	County	1988	1993
Number of vacant owned housing units	U.S. Census 1990 - STF1A	County	1990	1990
Number of vacant rental housing units	U.S. Census 1990 - STF1A	County	1990	1990
Transitions and Mobility				
Existing home sales	WCRER(WSU) - Housing Market Reports	County	1989	1994
Residential building permits	WCRER(WSU) - Housing Market Reports	County	1988	1993
Households in rental housing units	U.S. Census 1990 - STF1A	County	1990	1990
Housholds in owned housing units	U.S. Census 1990 - STF1A	County	1990	1990
Persons who moved within the same county during the last five years	U.S. Census 1990 - STF3A	Block Group	1990	1990
Persons who moved from outside the county during the last five years	U.S. Census 1990 - STF3A	Block Group	1990	1990
Extreme Economic and Social Deprivation				
Aid to Families with Dependent Children (AFDC)	DSHS(ORDA) - Warrant Role Data Files	Zip Code	1988	1994
Food stamps recipients	DSHS(ORDA) - Warrant Role Data Files	Zip Code	1988	1994
Accepted applicatins for free and reduced lunch	OSPI(Child Nutrition) - Free and Reduced Price Eligibility	School District	1989	1995
Unemployment	ESD(LMEA/LAUS Unit) - County Unemployment File	County	1988	1993
Civilians in the labor force	ESD(LMEA/LAUS Unit) - County Unemployment File	County	1988	1993
Exhausted unemployment	ESD(LMEA) - (BAS) County level exhausted employment benefits	County	1992	1995
All persons living below the poverty level	U.S. Census 1990 - STF3A	Block Group	1990	1990
All children living below the poverty level	U.S. Census 1990 - STF3A	Block Group	1990	1990
All families living below the poverty level	U.S. Census 1990 - STF3A	Block Group	1990	1990
Families	U.S. Census 1990 - STF3A	Block Group	1990	1990

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Extreme Economic and Social Deprivation (cont.)				
Female headed family households with own children	U.S. Census 1990 - STF3A	Block Group	1990	1990
Family households	U.S. Census 1990 - STF3A	Block Group	1990	1990
Per capita income	U.S. BEA - (REIS) Income Data	County	1988	1993
Low birthweight babies born	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate	Zip Code	1989	1994
Babies born	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate	Zip Code	1989	1994
Family History of High Risk Behavior				
AOD-Related Deaths	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Deaths	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Adults in AOD treatment programs	DSHS(DASA) - (TARGET) Treatment Admissions File	Zip Code	1991	1995
Less than 9th grade education	U.S. Census 1990 - STF3A	Block Group	1990	1990
Education in grades 9-12, but do no diploma	U.S. Census 1990 - STF3A	Block Group	1990	1990
Completed high school (or passed the GED) education	U.S. Census 1990 - STF3A	Block Group	1990	1990
Education included some college, but no degree	U.S. Census 1990 - STF3A	Block Group	1990	1990
Associate's degree education	U.S. Census 1990 - STF3A	Block Group	1990	1990
Bachelor's degree education	U.S. Census 1990 - STF3A	Block Group	1990	1990
Graduate or professional degree education	U.S. Census 1990 - STF3A	Block Group	1990	1990
Prisoners in state correctional systems	DOC - (OBTS) Prison Admissions File	County	1988	1994
Family Management Problems				
Children living away from parents	U.S. Census 1990 - STF1A	County	1990	1990
Children living with parents	U.S. Census 1990 - STF1A	County	1990	1990
Children placed in foster care	DSHS(ORDA) - NADB	Zip Code	1990	1994
Victims in reported child abuse and neglect referrals	DSHS(Children's Administration) - (CAMIS) Referral Victim Counts for Kids Count Report	County	1991	1995
Victims in accepted child abuse and neglect referrals	DSHS(Children's Administration) - (CAMIS) Referral Victim Counts for Kids Count Report	County	1991	1995
Family Conflict				
Dissolutions and annulments	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Divorce	County	1991	1994
Domestic violence-related arrests	WSP(Identificaton and Criminal History Section) - (Criminal History Database) DV-Related Arrest File	County	1988	1994
Single parent family households	U.S. Census 1990 - STF1A	County	1990	1990

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Family Conflict (cont.)				
Married couple family households	U.S. Census 1990 - STF1A	County	1990	1990
Domestic violence-related arrests	WSP(Identificaton and Criminal History Section) - (Criminal History Database) DV-Related Arrest File	County	1988	1994
Favorable Parental Attitudes and Involvement in Crime and Drugs				
Alcohol-related traffic fatalities	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Annual Collision Report Fatality Data)	County	1989	1994
Traffic fatalities	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Annual Collision Report Fatality Data)	County	1989	1994
Adult drunken driving arrests	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Adult alcohol-related arrests	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Adult drug-related arrests	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Adult violent crimes arrests	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Adult property crimes arrests	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Pregnant women admitted to state funded AOD treatment programs	DSHS(DASA) - (TARGET) Treatment Admissions File	Zip Code	1991	1995
Lack of Commitment to School				
High school dropouts, age 16-19	U.S. Census 1990 - STF3A	Block Group	1990	1990
Academic Failure				
GED certificates issued	OSPI(Information Services) - GED data (future source - WA State BCTC)	Zip Code	1988	1995
4th grade students scoring in the lowest 25% on standardized test	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
4th grade students taking standardized test	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
8th grade students scoring in the lowest 25% on standardized test	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
8th grade students taking standardized test	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Early and Persistent Antisocial Behavior				
Antisocial behavior average scale score	WSSAHB (School Survey)	Region	1995	1995

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Alienation, Rebelliousness, and Lack of Social Bonding				
Adolescent suicides	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Adolescent attempted suicides	DOH(OHPDS) - CHARS	Zip Code	1988	1992
Early Initiation of the Problem Behavior				
Juvenile arrests for alcohol violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for drug law violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for violent crimes	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for property crimes	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for vandalism	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Friends Who Engage in the Problem Behavior				
Substance use by peers average scale score	WSSAHB (School Survey)	Region	1995	1995
Favorable Attitudes Toward the Problem Behavior				
Personal attitude favorable towards substance use average scale score	WSSAHB (School Survey)	Region	1995	1995
Constitutional Factors				
Sensation seeking average scale score	WSSAHB (School Survey)	Region	1995	1995
Protective Factors				
Community rewards for conventional involvement average scale score	WSSAHB (School Survey)	Region	1995	1995
Family rewards for conventional involvement average scale score	WSSAHB (School Survey)	Region	1995	1995
School rewards for conventional involvement average scale score	WSSAHB (School Survey)	Region	1995	1995
Opportunitites for positive involvement in the family average scale score	WSSAHB (School Survey)	Region	1995	1995
Opportunities for positive involvement in the school average scale score	WSSAHB (School Survey)	Region	1995	1995
Belief in the moral order average scale score	WSSAHB (School Survey)	Region	1995	1995
Social skills average scale score	WSSAHB (School Survey)	Region	1995	1995
Additional Indicators of Substance Abuse and Other Problem Behavior				
Juvenile arrests for driving under the influence	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for liquor law violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for alcohol violations drunkenness	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Additional Indicators of Substance Abuse and Other Problem Behavior (cont.)				
Juvenile arrests for drug law violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for violent crimes	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for property crimes	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for curfew and loitering law violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for vandalism	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Juvenile arrests for disorderly conduct	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Adjudications of juveniles sentenced to JRA	OAC - JUVIS File	County	1988	1995
Adjudications of juveniles sentenced to detention	OAC - JUVIS File	County	1988	1995
Adjudications of juveniles sentenced to community supervision	OAC - JUVIS File	County	1988	1995
Placements of juveniles into diversion programs	OAC - JUVIS File	County	1988	1995
Adolescents admitted to state funded AOD treatment programs	DSHS(DASA) - (TARGET) Treatment Admissions File	Zip Code	1991	1995
Adolescents with gonorrhea	DOH(STD Services) - STD Reported Cases	Zip Code	1992	1994
Adolescents with syphilis	DOH(STD Services) - STD Reported Cases	Zip Code	1992	1994
Adolescents with chlamydia	DOH(STD Services) - STD Reported Cases	Zip Code	1992	1994
Births to adolescents	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate	Zip Code	1989	1994
Other Indicators (Adolescent Problem Substance Use)				
Lifetime prevalence of ATOD use	WSSAHB (School Survey)	Region	1992	1994
Annual prevalence of ATOD use	WSSAHB (School Survey)	Region	1992	1994
30-day prevalence of ATOD use	WSSAHB (School Survey)	Region	1992	1994
30-day prevalence: daily ATOD use	WSSAHB (School Survey)	Region	1992	1994
Trends in perceived availability of ATOD	WSSAHB (School Survey)	Region	1992	1994
Trends in exposure to ATOD use	WSSAHB (School Survey)	Region	1992	1994
Grade of first ATOD use	WSSAHB (School Survey)	Region	1992	1994
Reported ATOD use by friends	WSSAHB (School Survey)	Region	1992	1994
Perceived harmfulness of ATOD use	WSSAHB (School Survey)	Region	1992	1994
Other Indicators (Adult Problem Substance Use)				
Adult arrests for driving under the influence	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
AOD-related hospital admissions	DOH(OHPDS) - CHARS	Zip Code	1988	1992

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Other Indicators (Adult Problem Substance Use) (cont.)				
Traffic collisions where the driver was drunk	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
Traffic collisions where the driver was AOD impaired	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
Drunk drivers involved in traffic collisions	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
AOD-impaired drivers involved in traffic collisions	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
Drivers involved in traffic collsions who used any AOD	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
Traffic collisions where the driver had used any AOD	WSP(Records Section) -(Accident Records Database) (from WTSC(TRDC) - Crash Database)	Municipality	1993	1993
Average length of stay in prison for adult felony drug offenders	DOC - (OBTS) Prison Release File	County	1991	1995
Average prison portion of sentence for adult felony drug offenders	SGC - (Adult Felony Database) Length of prison sentence data	County	1988	1995
Chronic liver disease and cirrhosis deaths	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Medicaid mothers with indications of substance abuse	DSHS(ORDA) - First Steps Database	Zip Code	1990	1993
Babies born with Fetal Alcohol Syndrome	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate	Zip Code	1989	1994
Babies born with Drug Withdrawal Syndrome	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate	Zip Code	1989	1994
Other Indicators (Adolescent Violent Behavior)				
Adolescent homicides	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Arrests for simple assault	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Other Indicators (General Violent Crime)				
Homicides	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Death Certificate	Zip Code	1988	1994
Other Indicators (Juvenile Delinquency)				
Juveniles sentenced to JRA	DSHS(JJS) - GJJAC Annual Report Guilty Adjudication Data	County	1988	1993
Juveniles adjudicated guilty but not sentenced to JRA	DSHS(JJS) - GJJAC Annual Report Guilty Adjudication Data	County	1988	1993
All juveniles adjudicated guilty	DSHS(JJS) - GJJAC Annual Report Guilty Adjudication Data	County	1988	1993
Juvenile arrests for running away	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Arrests for vagrancy	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Other Indicators (Availability of Weapons)				
Licensed firearm dealers	DOL - Licensed Gun Dealers File	Zip Code	1994	1994
Arrests for weapons violations	WASPC - (UCR Database) Monthly Arrest Data & WASPC -Seattle P.D. Annual UCR Data	Police Jurisdiction	1990	1993
Firearm incidents in schools	OSPI(Weapons in Schools) - Weapons incidents reports	School District	1992	1993
Knife incidents in schools	OSPI(Weapons in Schools) - Weapons incidents reports	School District	1992	1993
Other weapons incidents in schools	OSPI(Weapons in Schools) - Weapons incidents reports	School District	1992	1993
Other Indicators (Adolescent Sexual Activity)				
Adolescents with herpes	DOH(STD Services) - STD Reported Cases	Zip Code	1992	1994
Adolescents with acute pelvic inflammatory disease	DOH(STD Services) - STD Reported Cases	Zip Code	1992	1994
Adolescent pregnancies	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificate & DOH(Center for Health Statics) - Abortion data (12-17)	Postal City	1991	1993
Other Indicators (Community)				
People who voted	OSS(Elections Division) - (Certified Election Results) Voter Turnout Tables	County	1988	1993
Vacant housing units	U.S. Census 1990 - STF3A	Block Group	1990	1990
Net migration	OFM - Net migration data	County	1988	1992
Rental housing units	U.S. Census 1990 - STF1A	County	1990	1990
Housholds in rental housing units	U.S. Census 1990 - STF3A	Block Group	1990	1990
Housholds in owned housing units	U.S. Census 1990 - STF3A	Block Group	1990	1990
Families in rental housing	U.S. Census 1990 - STF4A	County	1990	1990
Families in owned housing	U.S. Census 1990 - STF4A	County	1990	1990
Persons who moved in the last five years	U.S. Census 1990 - STF3A	Block Group	1990	1990
Persons living inside urbanized areas	U.S. Census 1990 - STF3A	Block	1990	1990
Person living in suburban areas of urban counties	U.S. Census 1990 - STF3A	Block	1990	1990
Persons living in rural areas	U.S. Census 1990 - STF3A	Block	1990	1990
Other Indicators (Economic)				
New admissions to state homeless shelters	DCD(HD/ESAP) - State homeless shelters data	County	1989	1994
New admissions of children to state homeless shelters	DCD(HD/ESAP) - State homeless shelters data	County	1989	1994
Homeless population	U.S. Census 1990 - STF1A	Block	1990	1990
Median Income	OFC - County Income Data	County	1988	1992
Unemployment claimants	ESD(LMEA) - (BAS) Claimants File (by zip)	Zip Code	1990	1994
Young children on food stamps or AFDC	DSHS(ORDA) - NADB	Zip Code	1992	1992
Medicaid mothers	DSHS(ORDA) - First Steps Database	Zip Code	1990	1993

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Other Indicators (Family)				
Children not living with one or both parents or guardians	U.S. Census 1990 - STF3A	Block Group	1990	1990
Unduplicated victims in accepted referrals to CPS	DSHS(Children's Administration) - (CAMIS) Accepted refer Abuse/Neglect	Zip Code	1991	1993
Victims in accepted referrals which allege sexual abuse to CPS	DSHS(Children's Administration) - (CAMIS) Accepted refer Abuse/Neglect	Zip Code	1992	1993
Children in foster care	DSHS(Children's Administration) - (SSPS) Placement File	Zip Code	1989	1993
Sexual assault examinations	L & I - Crime Victimization Sexual Assaults File	Zip Code	1988	1994
Young children in foster or group care	DSHS(ORDA) - NADB	Zip Code	1992	1992
Petitions for domestic violence & civil anti-harassment protection orders	OAC - L.J. DV and Civil Anit-harrassment Data File & OAC - Superior DV and Civil Anit-harassment Data File	County	1990	1993
Persons who are divorced or separated	U.S. Census 1990 - STF3A	Block	1990	1990
Single parent households with own children	U.S. Census 1990 - STF3A	Block Group	1990	1990
Adolescents living with a single parent	U.S. Census 1990 - STF3A	Block Group	1990	1990
Other Indicators (Child Health Status)				
Singleton low birthweight babies	DOH(Center for Health Statistics) - (Vital Statistics Registration System) Birth Certificatefrom (DSHS(ORDA) - First Steps Database)	Zip Code	1990	1993
Birth to 3 enrollees	DSHS(ORDA) - Infant Toddler Early Intervention Database	Zip Code	1990	1993
Birth to 3 predicted enrollees	DSHS(ORDA) - First Steps Database	Zip Code	1995	1995
Other Indicators (Marital Status)				
Persons who have never married	U.S. Census 1990 - STF3A	Block	1990	1990
Other Indicators (School)				
Students enrolled in public and private school	OSPI(Information Services) - Public & Private school enrollment data (R1345)	School District	1988	1994
Grade 4 reading proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 8 reading proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 11 English/Language Arts proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 4 math proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 8 math proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 11 math proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994

NOTE: Acronyms are defined on the last page of this appendix.

Construct Indicator	Source	Lowest Geographic Level	Start Year	End Year
Other Indicators (School)				
Grade 4 science proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 8 science proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Grade 11 science proficiency	OSPI(Instructional Programs/Curriculum and Assessment) - (WA State Assessment Program) Standardized Test Score File	School District	1991	1994
Annual dropouts	OSPI(Information Services) - School Dropout Files	School District	1988	1991

This list includes all indicators currently in the CORE-GIS Database. Some of the indicators in this list are composites of two or more types of events which could be broken out separately if needed (e.g., violent crime arrests). In other situations, a single type of event from a source file may have been differentiated into two or more indicators based on age. For reporting purposes, most of the indicators are subsequently represented as rates by dividing through by an appropriate denominator (e.g. total number of persons). The constructs under which the indicators are grouped provide a preliminary framework for conceptualizing risk and protective factors, and may be revised or reorganized according to future research findings. Although each indicator is assigned to only one category, there are some indicators that could be appropriately classified under several different constructs.

NOTE: Acronyms are defined on the last page of this appendix.

ACRONYM DEFINITIONS

AFDC	Aid to Families with Dependent Children
AOD	Alcohol and Other Drugs
ATOD	Alcohol, Tobacco, and Other Drugs
VAS	Benefits Automated System
BCTC	Board for community & Technical Colleges
TEA	Bureau of Economic Analysis
CAMIS	Children's Administration and Management Information System
CHARS	Comprehensive Hospital Abstract Reporting System
CPS	Child Protective Services
DASA	Division of Alcohol and Substance Abuse
DCD	Department of Community Development
DCFH	Division of Community and Family Health
DOC	Department of Corrections
DOH	Department of Health
DOL	Department of Licensing
DSHS	Department of Social and Health Services
DV	Domestic Violence
ESAP	Emergency Shelter Assistance Program
ESD	Employment Security Department
GED	General Educational Development
GJJAC	Governor's Juvenile Justice Advisory Committee
HD	Housing Division
JJS	Juvenile Justice Section
JRA	Juvenile Rehabilitation Administration
JUVIS	Juvenile Management Information System
L & I	Department of Labor & Industries
L. J.	Limited Jurisdiction
LAUS	Local Area Unemployment Statistics
LMEA	Labor Market and Economic Analysis
NADB	Needs Assessment Database
OAC	Office of the Administrator for the Courts
OBTS	Offender Based Tracking System
OFM	Office of Financial Management
OHPDS	Office of Hospital and Patient data Systems
ORDA	Office of Research and Data Analysis
OSPI	Office of Superintendent of Public Instruction
OSS	Office of the Secretary of State
P.D.	Police Department
REIS	Regional Economic Information System
SGC	Sentencing Guidelines Commission
SSPS	Social Service Payment System
STD	Sexually Transmitted Disease
STF1A	Summary Tape File 1A
STF3A	Summary Tape File 3A
STF4A	Summary Tape File 4A
TARGET	Treatment and Assessment Report Generation Tool
TPP	Tobacco Prevention Program
TRDC	Traffic Records Data Center
UCR	Uniform Crime Reporting
WASPC	Washington Association of Sheriffs and Police Chiefs
WCRER	Washington Center Real Estate Research
WSLCB	Washington State Liquor Control Board
WSP	Washington State Patrol
WSSAHB	Washington State Survey of Adolescent Health Behaviors
WSU	Washington State university
WTSC	Washington Traffic Safety Commission

APPENDIX G: REFERENCES

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APPENDIX H: DETERMINING "COUNTIES LIKE US"

Counties were grouped using characteristics that were related to the scope of prevention planning. A variety of groupings were examined, but the one finally chosen was based upon three distinguishing county attributes: population of young persons, alcohol- and drug-related deaths as a percent of all deaths, and the geographic Eastern/Western Washington split.

Urban Groups: A primary objective was to distinguish between urban and rural counties. The total number of persons ages 10-24 represents a majority of the target population for prevention activities and is also a good descriptor of county urbanicity. Counties with greater numbers of young persons typically have a larger percent of the population living in a metropolitan or city environment of some density, while smaller population totals are more indicative of rural counties. Urban counties were separated from rural counties and then subdivided using this measure.

Three sets of urban counties seemed to cluster well based on their populations of young adults (see Figure H-1, x-axis in both graphs):

- ***Urban A*.** King County. 1990 population (ages 10-24): 288,796. Since there are no other counties in its group, King County rates are compared to, but not included in, the rates of the *Urban B* group.
- ***Urban B*.** Pierce, Snohomish, and Spokane Counties. Average 1990 population (ages 10-24): 100,310
- ***Urban C*.** Benton, Clark, Kitsap, Thurston, Whatcom, and Yakima Counties. Average 1990 population (ages 10-24): 37,335

Rural Groups: After removing the 10 urban counties, the 29 remaining rural counties were split into three groups (Figure H-1, larger graph).

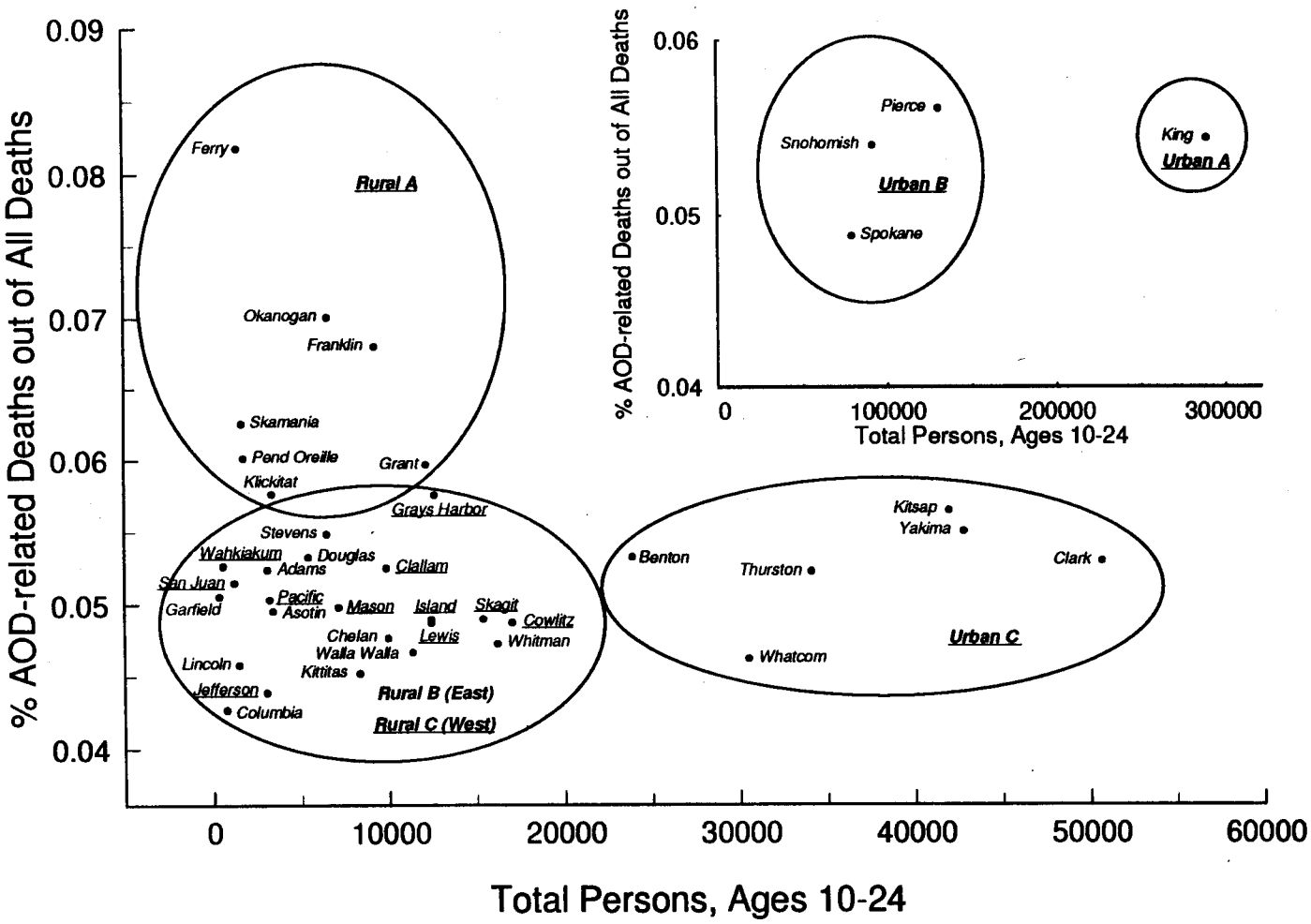
- **Rural A.** Ferry, Franklin, Grant, Klickitat, Okanogan, Pend Oreille, and Skamania Counties. This group is comprised of rural counties showing a high percentage of alcohol- and drug-related deaths as a percentage of all deaths over the period 1988-1995 (Figure H-1, y-axis). These counties, all in eastern Washington, have the seven highest percentages of AOD-related deaths in the state with an average of 6.6% of all deaths being AOD-related. In contrast, the percentage of AOD-related deaths for the urban counties is 5.3% and 4.9% for the other 22 rural counties. AOD-related deaths are determined using cause of death information from death certificates (see Appendix B for details).

  From the standpoint of prevention needs, clustering the *Rural A* counties appears useful as they are geographically and economically similar and are tied by a strong indication of substance use problems. Some care should be used in evaluating indicator levels with this group since the basis for their cluster is a variable related to substance abuse. Rates for these counties may not seem so high or low relative to rates for "Counties Like Us", but may exhibit considerable deviation from the state rate.

The remaining 22 rural counties are split between eastern and western Washington, 11 in each. None of these counties had more than 17,500 10-24 year olds with the eastern counties averaging 6,088 10-24 year olds and the western counties averaging 8,648 10-24 year olds. The groups include:

- **Rural B:** Adams, Asotin, Chelan, Columbia, Douglas, Garfield, Kittitas, Lincoln, Stevens, Walla Walla, and Whitman Counties.
- **Rural C:** Clallam, Cowlitz, Grays Harbor, Island, Jefferson, Lewis, Mason, Pacific, San Juan, Skagit, and Wahkiakum Counties.

Figure H-1. "Counties Like Us" Clusters



APPENDIX I: COUNTIES FOR WHICH REPORTED ARREST RATES ARE BASED ON LESS THAN 80 PERCENT OF THE POPULATION

	PERCENT OF POPULATION COVERED											
	1990			1991			1992			1993		
County	**10-14**	**10-17**	**18+**	**10-14**	**10-17**	**18+**	**10-14**	**10-17**	**18+**	**10-14**	**10-17**	**18+**
Clallam	--	--	--	--	--	--	--	--	--	58.7	57.9	60.5
Cowlitz	--	--	--	--	--	--	--	--	--	64.7	65.4	61.2
Ferry	71.0	74.8	76.5	72.8	75.5	77.3	73.8	76.0	78.0	75.0	76.8	78.6
Grant	37.2	37.6	--	38.2	37.1	--	38.3	36.6	--	66.1	65.0	--
Kitsap	4.7	4.6	74.0	9.1	7.2	67.9	16.0	13.3	77.2	16.8	13.7	79.0
Kittitas	47.8	48.1	62.1	--	--	--	--	--	--	--	--	--
Lincoln	--	--	--	--	--	--	79.6	77.5	76.5	--	--	--
Pacific	--	--	--	28.5	26.3	29.2	29.0	25.4	28.8	--	--	--
Skagit	78.5	78.3	77.5	78.6	77.8	76.6	--	--	--	--	--	--
Snohomish	--	--	--	--	--	--	--	--	--	49.7	48.1	45.7
Spokane	--	--	--	61.7	60.6	65.3	--	--	--	--	--	--

-- Percentage is greater than 80%

APPENDIX J: ANNUAL DATA TABLES

PIERCE COUNTY

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Availability of Drugs											
Alcohol Retail Licenses	Rate per 1,000	1.70	1.67	1.66	1.63	1.58	1.57	1.61		1.61	2.05
	# of Licenses	948	960	974	983	987	1,009	1,045		999.60	10,454.00
	# of Persons (all ages)	558,259	573,572	586,206	603,807	624,002	640,708	648,899		620,724.40	5,111,750.80
Tobacco Sales Licenses	Rate per 1,000						1.74	1.45	1.47	1.56	1.84
	# of Licenses						1,117	943	965	1,008.33	9,806.33
	# of Persons (all ages)						640,708	648,899	655,610	648,405.67	5,330,050.67
Community Laws & Norms Favorable to Crime & Drugs											
Average Length of Prison Sentence for Drug Offenses	Average	8.80	13.06	22.24	22.51	19.15	18.42	20.05	24.26	21.33	22.17
	# of Months	1,223	2,835	5,337	7,474	5,744	7,551	12,028	16,595	9,121.50	57,721.00
	# of Prisoners (18+)	139	217	240	332	300	410	600	684	427.67	2,603.33
Low Neighborhood Attachment & Community Disorganization											
Population Registered to Vote	Percent	64.64	54.92	54.79	54.62	69.70	65.49			61.32	67.57
	# Registered	262621	229,449	233331	239229	314777	303063			272,600.00	2,521,607.75
	# of Adults (18+)	406,302	417,775	425,845	437,979	451,601	462,791			444,554.00	3,731,910.25
Residential Vacancies	Percent			3.39						3.39	3.04
	# Vacant			7542						7,542.00	58,784.00
	Total Housing Units			222194						222,194.00	1,931,215.00
Transitions and Mobility											
Existing Home Sales	Rate per 1,000		16.81	15.88	15.29	15.54	16.09	17.49		16.08	18.03
	# of Sales		9,640	9,310	9,230	9,700	10,310	11,350		9,980.00	92,156.00
	# of Persons (all ages)		573,572	586,206	603,807	624,002	640,708	648,899		620,724.40	5,111,750.80
Residential Building Permits	Rate per 1,000	8.88	10.00	9.40	6.96	8.62	8.44			8.35	7.75
	# of Permits	4,955	5,736	5,513	4,202	5,380	5,410			5,126.25	39,163.50
	# of Persons (all ages)	558,259	573,572	586,206	603,807	624,002	640,708			613,680.75	5,056,097.00
Households in Rental Properties	Percent			39.70						39.70	37.43
	# of Rentals			85,225						85,225.00	700,851.00
	Total Households			214,652						214,652.00	1,872,431.00
Moved Within County During Last 5 Years	Percent			27.91						27.91	28.34
	# Moved within County			150183						150,183.00	1,276,011.00
	# of Persons (5+)			538,051						538,051.00	4,501,879.00
Moved From Outside County During Last 5 Years	Percent			28.13						28.13	25.80
	# Moved from Outside			151350						151,350.00	1,161,629.00
	# of Persons (5+)			538,051						538,051.00	4,501,879.00
Extreme Economic and Social Deprivation											
Children in AFDC	Rate per 1,000	135.38	137.74	132.05	134.58	137.15	138.06	139.71		136.43	120.29
	# of Children in AFDC	20,572	21,459	21,176	22,317	23,644	24,563	25,259		23,391.80	161,344.40
	# of Children (0-17)	151,957	155,797	160,361	165,828	172,401	177,917	180,801		171,461.60	1,341,309.20
Food Stamp Recipients	Rate per 1,000	73.12	74.65	71.65	76.83	83.44	87.28	89.96		82.08	74.62
	# of Recipients (all ages)	40,822	42,818	42,001	46,388	52,069	55,920	58,372		50,950.00	381,457.00
	# of Persons (all ages)	558,259	573,572	586,206	603,807	624,002	640,708	648,899		620,724.40	5,111,750.80

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Free and Reduced Lunch Program	Percent		24.98	26.13	28.33	30.87	30.51	32.31	32.82	30.25	27.46
	# Accepted in Program		24,585	27,403	30,597	34,324	34,739	37,404	38,567	33,839.00	245,149.50
	Total Students (K-12)		98,402	104,880	108,001	111,180	113,852	115,772	117,493	111,863.00	892,592.33
Unemployment	Percent	6.28	6.32	4.63	6.15	7.42	7.57			6.47	6.59
	# Unemployed (16+)	15,300	15,900	12,700	16,800	21,200	22,100			18,200.00	171,702.50
	# in Civilan Labor Force	243,500	251,700	274,300	273,100	285,600	292,000			281,250.00	2,604,017.50
Exhausted Unemployment Benefits	Percent					32.79	33.62			33.21	32.97
	# Exhausted (16+)					6,952	7,430			7,191.00	66,247.50
	# Unemployed (16+)					21,200	22,100			21,650.00	200,940.00
Persons Living Below the Poverty Level	Percent			11.41						11.41	10.92
	# Below Poverty (all ages)			64,068						64,068.00	517,933.00
	# of Persons (all ages)			561,587						561,587.00	4,741,003.00
Children Living Below the Poverty Level	Percent			15.46						15.46	14.54
	# Below Poverty (0-17)			24,088						24,088.00	179,272.00
	# of Children (0-17)			155,826						155,826.00	1,232,559.00
Families Living Below the Poverty Level	Percent			8.65						8.65	7.85
	# Below Poverty (families)			13,217						13,217.00	100,149.00
	# of Families			152,728						152,728.00	1,276,227.00
Female Headed Family Households	Percent			20.78						20.78	19.20
	# Single Female Headed			17,254						17,254.00	125,490.00
	Total Family Households			83,020						83,020.00	653,764.00
Per Capita Income	Average	14,913.00	15,888.01	16,999.00	17,597.99	18,586.99	19,010.00			18,068.46	20,660.61
Low Birthweight Babies Born	Rate per 1,000	67.85	64.31	58.92	59.01	62.09	62.30	54.49		59.41	52.30
	# with Low Birthweight	674	644	623	609	646	638	532		609.60	4,136.00
	Total Live Births	9,934	10,014	10,574	10,321	10,404	10,240	9,764		10,260.60	79,078.40
Family History of High Risk Behavior											
AOD-related Deaths	Percent	5.80	5.68	6.09	5.39	5.28	5.03	6.01		5.56	5.35
	# of AOD-Related Deaths	246	237	264	230	234	233	282		248.53	2,059.61
	Total Deaths	4,233	4,178	4,337	4,270	4,430	4,634	4,684		4,471.00	38,473.60
Adults in AOD Treatment Programs	Rate per 1,000				8.81	8.49	7.79	7.52	7.66	8.04	8.14
	# in AOD Treatment (18+)				3,857	3,832	3,606	3,521	3,609	3,685.00	31,307.80
	# of Adults (18+)				437,979	451,601	462,791	468,098	471,206	458,335.00	3,844,615.80
Educational Attainment - Less than High School Graduate	Percent			16.77						16.77	16.18
	# without Diplomas (25+)			60530						60,530.00	505,783.00
	# of Adults (25+)			361,037						361,037.00	3,126,390.00
Educational Attainment - High School Grad. Only	Percent			33.14						33.14	27.93
	# of Graduates (25+)			119,636						119,636.00	873,150.00
	# of Adults (25+)			361,037						361,037.00	3,126,390.00

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Prisoners in State Correctional Systems	Rate per 100,000	44.42	69.04	90.92	104.01	100.96	102.54	116.51		103.23	95.31
	# of Admissions (18+)	248	396	533	628	630	657	756		640.80	4,872.00
	# of Persons (all ages)	558,259	573,572	586,206	603,807	624,002	640,708	648,899		620,724.40	5,111,750.80
Family Management Problems											
Children Living Away from Parents	Rate per 1,000			77.50						77.50	73.90
	# Living Away (0-17)			12,373						12,373.00	93,219.00
	# of Children (0-17)			159,649						159,649.00	1,261,387.00
Children Placed in Foster Care	Rate per 1,000			15.66	16.99	16.55	15.40	14.53		15.80	12.87
	# with Foster Family (0-17)			2,500	2,818	2,853	2,740	2,627		2,707.55	17,242.87
	# of Children (0-17)			159,649	165,828	172,401	177,917	180,801		171,319.20	1,340,123.60
Victims in Reported Child Abuse and Neglect Referrals	Rate per 1,000				73.91	72.42	71.39	65.69	63.42	69.23	61.54
	# of Reported Victims				12,256	12,485	12,701	11,877	11,694	12,202.60	84,726.40
	# of Children (0-17)				165,828	172,401	177,917	180,801	184,404	176,270.20	1,376,796.40
Victims in Accepted Child Abuse and Neglect Referrals	Rate per 1,000				55.71	48.09	41.65	40.06	35.60	43.96	41.74
	# of Accepted Victims				9,238	8,291	7,411	7,243	6,564	7,749.40	57,470.40
	# of Children (0-17)				165,828	172,401	177,917	180,801	184,404	176,270.20	1,376,796.40
Family Conflict											
Divorce	Rate per 1,000				8.47	8.57	7.73	7.77	7.08	7.91	7.54
	# of Divorces				3,711	3,868	3,579	3,638	3,337	3,626.60	28,978.80
	# of Persons (18+)				437,979	451,601	462,791	468,098	471,206	458,335.00	3,844,615.80
Single Parent Family Households	Percent			26.25						26.25	24.72
	# Single Parent Headed			21,795						21,795.00	161,603.00
	Total Family Households			83,020						83,020.00	653,764.00
Domestic Violence Arrests	Rate per 1,000	3.68	4.61	5.45	5.44	5.48	5.83	6.62		5.78	4.80
	# of Arrests	1,496	1,927	2,321	2,382	2,477	2,700	3,098		2,595.60	18,110.00
	# of Adults (18+)	406,302	417,775	425,845	437,979	451,601	462,791	468,098		449,262.80	3,770,441.60
Favorable Parental Attitudes and Involvement in Crime and Drugs											
Alcohol-related Traffic Fatalities	Percent		NR	52.94	NR	NR	52.46	NR		47.37	48.02
	# Alcohol-related		25	45	27	28	32	21		30.60	332.20
	Total Traffic Fatalities		67	85	61	60	61	56		64.60	691.80
Adult Drunken Driving Arrests	Rate per 1,000			3.82	4.65	4.88	4.36			4.43	6.89
	# of Arrests (18+)			1,606	2,023	2,192	1,924			1,936.25	23,857.75
	# of Adults (18+)			420,882	435,503	449,116	441,511			436,753.00	3,461,385.50
Adult Alcohol-related Arrests	Rate per 1,000			5.63	6.34	6.60	6.14			6.18	12.03
	# of Arrests (18+)			2,371	2,762	2,963	2,709			2,701.25	41,646.25
	# of Adults (18+)			420,882	435,503	449,116	441,511			436,753.00	3,461,385.50
Adult Drug-related Arrests	Rate per 1,000			4.60	4.22	4.34	4.86			4.50	3.96
	# of Arrests (18+)			1,937	1,836	1,950	2,147			1,967.50	13,701.25
	# of Adults (18+)			420,882	435,503	449,116	441,511			436,753.00	3,461,385.50

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Adult Violent Crime Arrests	Rate per 1,000			2.52	2.64	2.52	2.42			2.52	1.80
	# of Arrests (18+)			1,059	1,149	1,132	1,070			1,102.50	6,225.00
	# of Adults (18+)			420,882	435,503	449,116	441,511			436,753.00	3,461,385.50
Adult Property Crime Arrests	Rate per 1,000			8.64	8.70	8.72	7.09			8.28	9.97
	# of Arrests (18+)			3,638	3,788	3,916	3,131			3,618.25	34,523.50
	# of Adults (18+)			420,882	435,503	449,116	441,511			436,753.00	3,461,385.50
Drug Treatment During Pregnancy	Rate per 1,000				13.27	9.90	6.64	7.27		9.31	8.81
	# Pregnant in Treatment				137	103	68	71		94.75	696.00
	# of Live Births				10,321	10,404	10,240	9,764		10,182.25	78,982.25
Lack of Commitment to School											
High School Dropouts, Age 16-19	Percent			10.38						10.38	10.57
	# of Dropouts (16-19)			3,368						3,368.00	27,335.00
	# of Persons (16-19)			32,454						32,454.00	258,731.00
Academic Failure											
GED Diplomas Issued	Rate per 1,000	3.37	3.24	1.74	1.88	1.93	1.84	1.86	2.10	1.90	1.96
	# Receiving GED (all ages)	1,883	1,861	1,022	1,137	1,202	1,181	1,207	1,375	1,187.33	10,097.17
	# of Persons (all ages)	558,259	573,572	586,206	603,807	624,002	640,708	648,899	655,610	626,538.67	5,162,275.67
Poor Academic Performance, Grade 4	Percent				25.27	26.87	26.82	27.21	25.72	26.39	27.13
	# with Low Score				2,115	2,344	2,284	2,383	2,199	2,265.00	18,273.80
	# of 4th Graders Tested				8,370	8,722	8,516	8,757	8,550	8,583.00	67,354.50
Poor Academic Performance, Grade 8	Percent				23.56	22.54	23.19	21.93	21.66	22.54	21.55
	# with Low Score				1,632	1,673	1,800	1,756	1,771	1,726.40	13,130.80
	# of 8th Graders Tested				6,927	7,423	7,762	8,006	8,177	7,659.00	60,919.25
Early and Persistent Antisocial Behavior											
Antisocial Behavior**	Average Scale Score								1.20	1.20	1.24
Alienation, Rebelliousness, and Lack of Social Bonding											
Adolescent Suicides and Suicide Attempts	Rate per 100,000	65.64	NR	65.90	79.98	66.52				70.80	73.26
	# of Suicides & Attempts	40	29	42	53	46				47.00	395.33
	# of Children (10-17)	60,943	61521	63,735	66,263	69,147				66,381.67	539,645.67
Early Initiation of the Problem Behavior											
AOD-related Arrests, Age 10-14	Rate per 1,000			1.43	0.80	1.05	0.85			1.02	2.16
	# of Arrests (10-14)			59	35	48	39			45.25	696.50
	# of Children (10-14)			41,141	43,810	45,864	45,868			44,170.75	322,715.75
Violent Crime Arrests, Age 10-14	Rate per 1,000			1.29	1.85	1.88	1.70			1.69	2.18
	# of Arrests (10-14)			53	81	86	78			74.50	703.50
	# of Children (10-14)			41,141	43,810	45,864	45,868			44,170.75	322,715.75
Property Crime Arrests, Age 10-14	Rate per 1,000			21.88	22.23	20.93	17.70			20.64	30.45
	# of Arrests (10-14)			900	974	960	812			911.50	9,826.75
	# of Children (10-14)			41,141	43,810	45,864	45,868			44,170.75	322,715.75

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Vandalism Arrests, Age 10-14	Rate per 1,000			1.82	1.42	2.05	1.96			1.82	3.93
	# of Arrests (10-14)			75	62	94	90			80.25	1,267.25
	# of Children (10-14)			41,141	43,810	45,864	45,868			44,170.75	322,715.75
Friends Who Engage in the Problem Behavior											
Substance Use by Peers**	Average Scale Score								1.37	1.37	1.49
Favorable Attitudes Toward the Problem Behavior											
Personal Attitude Favorable towards Substance Use**	Average Scale Score								1.76	1.76	1.82
Constitutional Factors											
Sensation Seeking**	Average Scale Score								2.83	2.83	2.90
Protective Factors											
Community Rewards for Conventional Involvement*	Average Scale Score								2.15	2.15	2.22
Family Rewards for Conventional Involvement*	Average Scale Score								2.77	2.77	2.79
School Rewards for Conventional Involvement*	Average Scale Score								2.41	2.41	2.41
Opportunities for Positive Involvement in the Family**	Average Scale Score								2.76	2.76	2.76
Opportunities for Positive Involvement in the School**	Average Scale Score								2.63	2.63	2.59
Belief in the Moral Order**	Average Scale Score								2.97	2.97	2.98
Social Skills**	Average Scale Score								2.86	2.86	2.80
Additional Indicators of Substance Abuse and Other Problem Behavior											
Juvenile Arrests for Alcohol Violations	Rate per 1,000			3.40	2.86	2.62	2.31			2.78	8.98
	# of Arrests (10-17)			214	188	180	158			185.00	4,109.75
	# of Children (10-17)			63,019	65,821	68,702	68,532			66,518.50	457,406.75
Juvenile Arrests for Drug Law Violations	Rate per 1,000			2.57	1.98	2.47	2.58			2.40	2.68
	# of Arrests (10-17)			162	130	170	177			159.75	1,311.25
	# of Children (10-17)			63,019	65,821	68,702	68,532			66,518.50	489,048.25
Juvenile Arrests for Violent Crimes	Rate per 1,000			3.03	3.86	4.15	3.72			3.70	4.19
	# of Arrests(10-17)			191	254	285	255			246.25	2,047.75
	# of Children (10-17)			63,019	65,821	68,702	68,532			66,518.50	489,048.25
Juvenile Arrests for Property Crimes	Rate per 1,000			29.23	32.86	32.30	26.95			30.33	45.62
	# of Arrests (10-17)			1,842	2,163	2,219	1,847			2,017.75	22,312.50
	# of Children (10-17)			63,019	65,821	68,702	68,532			66,518.50	489,048.25

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events

Annual Indicator Data

PIERCE COUNTY		1988	1989	1990	1991	1992	1993	1994	1995	County Average 1990-1995*	State Average 1990-1995*
Juvenile Arrests for Curfew, Loitering, Vandalism, & Disorderly	Rate per 1,000			3.05	2.64	3.70	2.96			3.09	7.31
	# of Arrests (10-17)			192	174	254	203			205.75	3,573.25
	# of Children (10-17)			63,019	65,821	68,702	68,532			66,518.50	489,048.25
Guilty Adjudications of Juveniles	Rate per 1,000	14.49	17.08	14.92	14.64	17.08	17.56	21.29	23.28	18.33	24.47
	# of Adjudications (0-17)	883	1051	951	970	1181	1267	1580	1801	1,291.67	13,949.67
	# of Children (10-17)	60,943	61,521	63,735	66,263	69,147	72,148	74,202	77,378	70,478.83	569,980.17
Juveniles Diversions	Rate per 1,000	28.57	28.85	29.95	34.86	31.86	27.68	28.19	28.11	30.00	34.19
	# of Placements (0-17)	1,741	1,775	1,909	2,310	2,203	1,997	2,092	2,175	2,114.33	19,484.83
	# of Children (10-17)	60,943	61,521	63,735	66,263	69,147	72,148	74,202	77,378	70,478.83	569,980.17
Adolescents in AOD Treatment	Rate per 1,000				7.29	10.67	10.84	8.67	10.69	9.67	6.66
	# in Treatment (10-17)				483	738	782	643	827	694.60	3,859.00
	# of Children (10-17)				66,263	69,147	72,148	74,202	77,378	71,827.60	579,509.40
Adolescent Sexually Transmitted Diseases	Rate per 1,000					5.69	5.81	4.57		5.35	3.66
	# of Cases (0-19)					1,085	1,143	913		1,047.00	5,562.00
	# of Persons (0-19)					190,668	196,669	199,884		195,740.33	1,520,142.67
Birthrate Among Adolescents	Rate per 1,000	12.24	12.87	11.63	12.73	12.79	13.35	11.81		12.47	11.45
	# of Births	364	386	361	410	430	468	426		419.00	3,106.20
	# of Females (10-17)	29,745	29,998	31,036	32,212	33,611	35,047	36,074		33,596.00	271,209.60

*Averages are based on all available years of data from 1990 to 1995
**Regional average
NR - Not Reported NE - No Events